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OUTLINES OF PSYCHOLOGY

DESIGNED FOR USE IN

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AND INSTITUTES, AND AS A GUIDE
FOR ALL STUDENTS OF AP-
PLIED PSYCHOLOGY.

BY
Graham
HENRY G. WILLIAMS, A. M.

Superintendent Schools, Lynchburg, Ohio, and author of a Series of
Outlines for Teachers and Advanced Students.

THIRD EDITION.

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PREFACE.

THIS little book does not pretend to be a treatise on Psychology, but an outline of principles logically arranged so that the student of Psychology and of the theory of teaching may use it as a guide-book in directing his investigations upon this subject. Definitions and principles are not here extensively elucidated, but the facts of the science are plainly stated in their relation to each other, with ample suggestions to the student who desires to make further investigations. It has been the aim of the author to incorporate the cardinal principles that underlie all empirical psychology, and to show the inseparable relationship existing between these principles and the successful practice of the teacher. As "science is knowledge properly classified," it has been the aim of the author to show the coördination and subordination of every topic, suggesting also the order in which each should be studied. That there is a philosophy of education is now generally admitted, though not universally. The application of universal principles to teaching is based upon such a philosophy. To aid the young teacher to discover and realize that Psychology is not an isolated science, the author has appended other outlines and suggestive articles, showing the application of psychological prin-

E.W. Fisher, 8-10.

principles. The demand for this little book on the part of teachers and students in all parts of the country has been such since issued, only a few months ago, that the author feels that it has been gladly welcomed by the teaching profession. It has been necessary to make new plates, and the author has taken the opportunity thus afforded to make several additions to the work. That it may continue to meet the approval of an ever-advancing profession is the hope of the author.

HENRY G. WILLIAMS.

Lynchburg, O., March, 1895.

A SYNOPSIS OF THE SUBJECT.

Every student should acquaint thonsself* with some method by which thon can positively correlate the facts of thons knowledge. The author believes a systematic and logical classification of the truths of a science necessary to make knowledge scientific. With that end in view he has attempted to embody, in a logical outline, the fundamental facts of this important science.

If the student of these pages be not entirely familiar with this system of outlining, thon will do well to study carefully the following brief synopsis of the more extended outline that follows. It will be noticed that the larger figures represent coördination when placed one above the other in a vertical column, and subordination when placed one column to the right. The exponents placed to the right and at the top of the numerals indicate the order and extent of the subdivisions made. A little careful study will enable the student to comprehend readily the entire scheme, and to observe the manifest superiority of the exponential numeral system above all others.

*As the English language lacks a pronoun for the third person, singular number, common gender, the author hopes he will be pardoned for using the above new word. He also hopes the word will soon become euphonious to many a student of English. Declined: Nominative, *thon*; possessive, *thons*; objective, *thon*; compound, nominative and objective, *thonsself*.

THE SYNOPSIS.

1¹ Psychology.

1² Definition.—Psychology is the science of the phenomena of the soul.

2² Methods of study.

1³ The introspective, or subjective, method.—The study of self by means of consciousness.

2³ The inferential, or objective, method.—The study of the mind by observation of the words and acts of others, and by biography, history, literature, etc.

3³ The physiological.—The study of the relations between physical conditions and mental phenomena.

4³ The textbook method.—If teachers expect to learn the science, they must study the generalizations resulting from observation and inference.

3² The powers of the soul.

1³ Its general powers—3 in number.

1⁴ Consciousness.—See outline.

2⁴ Attention.—See outline.

3⁴ Conception.—See outline.

2³ Its individual powers—3 in number.

1⁴ Intellect.

1⁵ Def.—The power of the soul to know.

2⁵ Intellectual powers.

- 1⁶ Presentative. — The powers or channels through which the soul gains knowledge. See outline.
- 1⁷ Self-Consciousness.
- 2⁷ Sense-Perception.
- 3⁷ Intuition.
- 2⁶ Representative. — The powers to represent and reknow objects, their qualities and relations, by concepts, ideas, or images.
- 1⁷ Phantasy, or fancy.—See outline.
- 2⁷ Imagination.—See outline.
- 3⁷ Memory.—See outline.
- 3⁶ Thought, or Cognitive Powers.—Powers by which we form and rationally apply general conceptions.
- 1⁷ Conceptive generalization. See outline.
- 2⁷ Judgment.—See outline.
- 3⁷ Reason.—See outline.
- 2⁴ Sensibility.
- 1⁵ The corporeal feelings.
- 1⁶ Sensations.—General and special.
- 2⁶ Appetites.—Natural and acquired.
- 2⁵ The psychical feelings.
- 1⁶ Affections.—Beneficent, defensive, and maleficent.
- 2⁶ Emotions.—Instinctive and rational.
- 3⁶ Desires.—For property, liberty, knowledge, etc.
- 3⁴ Will.
- 1⁵ Def.—The soul's power to execute.
- 2⁵ Classification of will powers.
- 3⁵ Moral training.

OUTLINES OF PSYCHOLOGY.

- 1¹ Definition.**—**Psychology** is the science of the phenomena of the soul. Gordy says it is the science of mental facts. Steele says, "Psychology is the science of the human soul," and so say a large majority of authorities, but a close study of the facts will convince one that the science is based upon a study of the phenomena, or activities, of the soul.
- 2¹ Etymology.**—From the Greek *psyche*, meaning soul, and *logos*, meaning discourse.
- 3¹ Province.**—The mind and its activities.
- 4¹ Reasons why it should be studied.**
- 1² By all who desire a good education.**
- 1³ It develops the intellect.**
- 2³ It teaches the importance of a study of human nature in order to win success in any vocation or profession.**
- 3³ It enables one to know how best to develop his own mind.**
- 4³ It is of great value to all who would influence their fellowmen to moral excellence and the best use of their faculties.**
- 2² By teachers and prospective teachers.**
- 1³ It aids the teacher in striving for that which is best within himself.**

2³ It enables him to teach scientifically.

3³ With the mind the teacher deals, concerning mind he should know.

4³ "On earth there is nothing great but man, and in man there is nothing great but mind."

5³ It enables the teacher to direct with a purpose and to a definite end the early development of the child mind.

3² By all professional persons.

1³ "The proper study of mankind is man."

2³ A knowledge of human nature is indispensable to the lawyer, the doctor, or the minister.

5¹ The Soul.

1² Def.—The soul is that part of man's being which feels, knows, and wills.

2² Synonyms.—Mind, ego, self, spirit, etc. The term *mind* is used as almost identical with the term *soul*, yet there should be a difference in their application. (See 4² below.) *Ego* means the self, as distinguished from all material creation—the individual soul: I, myself. The ego is the subjective as distinguished from the objective. Other synonyms are: conscious subject, human consciousness, and spirit.

3² Distinction between soul and spirit.—Hewett makes this distinction: The word *soul* includes in its meaning such of the lower psychological powers as the nobler brutes possess in some degree in common with man. The spiritual part of man's psychological nature includes personality, morality, and responsibility, while the soul attributes possessed by the higher orders of the

lower animals do not include reason, conscience, and a free will, hence no personality, morality, and responsibility.

4² Distinction between mind and soul.—I look upon the mind as being finite, while the soul is infinite, because immortal, hence infinite in extent and infinite in content. The soul is capable of indefinite improvement in progression, while the growth of the mind is rendered finite by death. *Soul* includes all that *mind* does, while it also includes the spiritual nature, the function of immortal being.

5² The powers or faculties exercised by the soul.—Sensibility, intellect, and will.

1³ This classification was first made by Sir William Hamilton, about 1840.

2³ Divisions.

1⁴ Sensibility.—The power of the soul to feel; includes physical as well as psychical feelings, because the former can be recognized only by the conscious subject, the soul.

2⁴ Intellect.—The power of the soul to know.

3⁴ Will.—The power of the soul to do or execute.

6¹ Psychology proper.

1² Classification.

1³ Empirical psychology.—That which restricts itself to observation and experience, and does not speculate upon the nature of the principles involved. All psychology proper is empirical, and to this branch of the subject teachers should devote particular attention.

- 2³ Rational psychology.—That which deals with the nature of the soul and deduces philosophies from the underlying principles discovered in the study of phenomena. Empirical psychology gives but greater prominence to phenomena of the soul with the conditions and laws of the same, while rational psychology gives prominence to the faculties implied by these phenomena. The terms cognition, feeling, and volition apply directly to the first, while the terms intellect, sensibility, and will are more properly used in the classification of the second.
- 2² Methods of study.
- 1³ The study of self, or by means of consciousness.
- 1⁴ The method.
- 1⁵ We know that we think, feel, and will.
- 2⁵ We know that we see, hear, smell, taste, and touch.
- 3⁵ We know that we perceive, imagine, remember, judge, and reason.
- 2⁴ Consciousness.—The mind knowing itself and its own activities and states.
- 3⁴ Causes.—We can study the causes that excite certain feelings in the mind. Psychological feelings are here referred to.
- 4⁴ Circumstances.—We can observe under what circumstances we feel pain and pleasure, joy and sorrow, indignation and pity, etc.
- 5⁴ Difficulties encountered by this method.—This method of introspection, as it is called, is at first quite difficult, but becomes easier

by practice. A mental act of any kind is a fleeting phenomenon, and while we attempt to concentrate our thoughts upon any mental act it becomes a past act. However, memory comes to our assistance and calls up our past mental phenomena, thus in part obviating the difficulty.

6⁴ Extent of this method.—We can thus study only isolated mental facts, hence the method gives us knowledge only of individual facts. To obtain a law of mental activity we must connect these individual facts: laws are the results of inference. It can thus be seen that we use also, to a slight extent, the inferential method in the study of our own minds.

2³ The study by observation.

1⁴ Application.—While the first method may be called the introspective, or subjective, the study of the mind by observation may be called the inferential, or objective, method.

2⁴ Advantage.—We have, in the schoolroom and out of it, all the steps in the child's progress in development, together with the real and apparent influences and the environments.

3⁴ Difficulty.—One can not study a single mind long enough or under a sufficient variety of circumstances to arrive at definite conclusions. The same child is not under the direct observation of a teacher long enough for him to make a series of observations that shall discover for him a law of mental growth. The present insecure tenure of teachers only aggravates this difficulty..

- 4⁴ Relation to introspective method.—In the study and collection of individual facts you can use the introspective method without the inferential, but the latter can not be used at all without the former. When we make an inference it is because we know by introspection that we have certain mental activities when certain circumstances exist.
- 5⁴ How the method is used.
- 1⁵ Through a study of the words and acts of others.
 - 2⁵ By observation we may trace the growth of a child's mind.
 - 3⁵ We may learn the traits, motives, and beliefs of men from a study of the auxiliary branches:
 - 1⁶ Biology, the science of life.
 - 2⁶ Sociology, the science of society.
 - 3⁶ Biography, the history or narrative of an individual life.
 - 4⁶ Anthropology, the science which treats of man in his relation to the animal kingdom.
 - 5⁶ Physiology, the science which treats of the functions of man's individual organism.
 - 6⁶ History, when studied in the light of cause and effect.
 - 7⁶ Literature, when studied in the light of the history of language and the growth of thought.
- 3³ The study of psychology from books.
- 1⁴ It is a necessary method, but should not be used exclusively.

- 2⁴ Difficulty.—The different nomenclatures used by different authors tend to confound the learner. (To remove this difficulty the author has thought it best to use synonymous terms where such terms have come into general use. To illustrate: "Introspective," from the Latin, meaning *to look within*, is synonymous to "subjective"; the student should have this relation impressed upon the mind by seeing them together.)
- 3⁴ Importance.—Teachers must study psychology from books if they expect to learn the science. Only in this way can they profit by the experience and wisdom of those who have given much time to the study. It is necessary to study books on this subject in order to know the generalizations that have been made as the results of centuries of observation, and to learn the scientific terms that have been thus evolved.
- 3² Psychology as a science.—Inductive, because its laws are founded upon, and formulated from, the observation of related mental activities.
- 4² **Relation of the psychological to the physical.**
- 1³ Reasons for this relation.—As there can be no mental activity without a living organism supplied with a nervous system, the study of psychology is necessarily closely connected with that of physiology.
- 2³ What the relation is.—Neither reflection nor observation will reveal the exact relation between soul and body. Reflection, consciousness, and

intuition are alike unable to solve the problem. The doctrine of their connection is simply theoretical, and as such does not belong to applied psychology. Herbart says: "The whole nervous system in the human body serves a single soul, and by means of this system the soul is implanted *in* this body, more a burden than a help to it, for the body lives as a plant for itself, provided nourishment and a suitable place be given it, as sometimes has to be done for idiots. Stories of some who were idiots from birth give rise to the thought that they may be merely vegetating bodies without souls." It will be of interest to the student to sketch an outline of the

3³ Theories or philosophies arising from the relation of the soul and body.—Monism and Dualism.

1⁴ Monism.

1⁵ Def.—The assumption that the soul and body are each material, and of one substance.

2⁵ Etymology.—From the Greek word *monos*, meaning one.

3⁵ Forms of monism.—Materialism, Idealism, and Agnosticism.

1⁶ Materialism.

1⁷ Def.—The doctrine that denies the existence of spiritual elements, and regards the soul as a function of matter in motion.

2⁷ Example of materialists.—Alexander Bain, a Scotch philosopher, born 1818, who called the body a double-faced unity, with mind on one side and matter

on the other, acting much as an electrical molecule.

2⁶ Idealism.

1⁷ Def.—The doctrine that admits no other reality than ideas, regarding all known objects as the products of psychical action, and the soul as immaterial. It denies the physical facts that correspond to sensations, and teaches that sensation is not a proof of anything without.

2⁷ Idealists.—George Berkeley, Irish metaphysician, 1684–1753, was probably the founder of idealism, though John Locke, 1632–1704, author of “*Essay on the Human Understanding*,” asserted that experience is the sole ground of knowledge. David Hume, 1711–1776, carried Locke’s theory to startling consequences. John Stuart Mill, English political economist, 1806–1873, was an idealist. He defined mind as a series of feelings, and matter as a permanent possibility of sensations.

3⁶ Agnosticism.

1⁷ Def.—The doctrine that the existence of a personal deity can neither be asserted nor denied, neither proved nor disproved, owing to the necessary limits to the human mind.

2⁷ Agnostic.—Herbert Spencer, English philosopher, born 1820, who refers the phenomena of both mind and matter to a substance which is both unknown and unknowable. He rejects all evidence that is not positive and conclusive. His great work, “*Education: Moral, Intellectual, and Physical*,” should be read by all teachers, but with a clear, discriminating judgment.

2⁴ Dualism. (1⁴ Monism.)

1⁵ Def.—The doctrine that man is constituted of two original and independent elements, matter and spirit.

2⁵ Etymology.—From the Latin *duo*, meaning two.

3⁵ Forms.—Mysticism and Dualistic Realism.

1⁶ Mysticism.—The doctrine of preëstablished harmony in all things, and the direct communication of the soul with the divine spirit. The French philosopher, Nicholas Malebranche, 1638–1715, and the German philosopher, G. W. Leibnitz, 1646–1716, were dualists. It seems that dualists themselves, although believing the doctrine in the main as stated above, could never agree as to the extent of the soul's vision in comprehending the divine spirit. Leibnitz's theory of pre-established harmony supposes that the Creator has ordered the activities of mind and matter to run parallel, but without connection.

2⁶ Dualistic Realism.

1⁷ Def.—The belief in the clear apprehension of the soul by self-consciousness, and in a knowledge of the body and the world of matter through sense-perception.

2⁷ Its validity.—This theory, or philosophy, adheres to the facts and rejects arbitrary hypotheses. It does not pretend to unravel all the mysteries of soul, determine its locus, or disbelieve all things because it can not see all things. It is ready to confess ignorance when there are no means for further knowledge.

3⁷ Believers in dualistic realism.—Since the time of Thomas Ried, a Scotch philosopher, 1710–1796, this doctrine has been the leading one held by the great body of advanced thinkers of Europe and America. James McCosh, an American philosopher, of Scotch birth, who was born in 1811, and died November 16, 1894, was probably the greatest leader in this philosophy, of the nineteenth century. It would be well, for those who have the inclination, to secure the works of the authors mentioned in this outline of the various philosophies of the soul, and study their bearing upon the development of thought in this advanced age. For a list of works see “The Literature of Psychology,” in this volume.

4³ The nervous system as the intermediate factor in all sensations. (See 3³ and 4² to observe the connection of this topic.)

1⁴ The processes in every complete sensation.

1⁵ The external excitant, or physical excitant, as it is sometimes called. It is that which when presented to the nervous system under proper conditions will produce a physical sensation. To illustrate: A bright light placed before the eyes will produce a certain change in the optic nerve, which is a physical sensation. The light is the external excitant.

2⁵ The sensorium, or that part of the nervous system engaged in conveying and receiving

sensation; the eye, the optic nerve, and the brain, in the illustration.

- 3⁵ The mental, or psychical, excitement, sometimes called the sensorial excitement. It is probably better to say that the sensorial excitement is in the sensory nerves and that part of the brain used in receiving sensations, while the psychical excitement is the sensation proper, and is in the soul. This distinction shows that there are physical, or corporeal, sensations, and psychical sensations. By those who use unscientific speech the former is meant when sensation is referred to.

2⁴ Analysis of the nervous system.

1⁵ Cerebro-spinal system.

- 1⁶ Def.—That part of the nervous system comprised in the brain, spinal cord, their nerves, and the ganglia belonging to them.

2⁶ Parts.

- 1⁷ The Brain, or encephalon.

- 1⁸ Weight.—In the male adult, 49 to 50 ounces; in the female adult, 44 to 45 ounces.

2⁸ Parts.

- 1⁹ Cerebrum.—The portion of the brain occupying the top and front part of the cranium. Gray matter to the depth of $\frac{1}{4}$ to $\frac{1}{8}$ of an inch covers the outer part, constituting the cortex of the cerebrum. Beneath it is the white matter consisting of nerve-fibers. It is estimated that the num-

ber of nerve-cells in the cerebrum alone is about 900,000,000, while the number of fibers is probably about 4,500,000,000. The cerebrum is the seat of intelligence, and has control of all the voluntary movements of the body. (See outline below.)

2^o Cerebellum.—Called the “little brain.” It is situated in the posterior part of the cranium, beneath the cerebrum, or brain proper, and is composed of gray and white matter in about the same proportions and relations as in the cerebrum, but is only about $\frac{1}{8}$ as large. Its function is not definitely known, but it is generally believed that the cerebellum has a coördinating power with the cerebrum in controlling voluntary muscular movements. As the cerebrum is the seat of thought, it can not be doubted that all voluntary muscular movements must be under the control of the cerebrum, so far as the will is concerned, but it is believed that the will of the cerebrum is carried out by the cerebellum. But the fact that the cerebrum may sometimes carry out these acts alone in case of an injury to the cerebellum, leads scientists to conclude that the exact function of the latter is not yet definitely known.

3^o Medulla Oblongata.—This is really an enlarged portion of the spinal cord, situated just above the foramen magnum, at the base of the skull. It is about one inch and a quarter long by three quarters of an inch wide, and weighs about one ounce. Its weight is a little greater in females than in males. Its function is to control wholly or in part the actions of the heart, lungs, and blood-vessels, and all

vital actions. Although respiration is to some extent under the control of the will, yet ordinarily we breathe by reflex action.

3⁸ Intellectual power and size of brain.

1⁹ The rule.—Great intellectual power is usually associated with a large brain, especially a large cerebrum. Examples are Abercrombie, Cuvier, Turgeneiff, Webster, Disraeli, and others.

2⁹ The exceptions.

1¹⁰ The weight of the brain is relatively greater at birth and in childhood than in youth or manhood and womanhood. But it is a well-established fact that brain growth attends proper mental exercise. The brain is largest from the ages of 40 to 50 years, when a gradual decrease in size sets in.

2¹⁰ A few cases of imbecility have been noticed where the brain was very heavy, usually abnormally heavy.

2⁷ Nerves of the brain-system. (1⁷ The brain.)

1⁸ Sensory.—Those that carry sensations to the brain. They are also called afferent nerves, because of the direction in which they carry sensation. The term *sensation* is here used in its physical sense, as used in physiology.

2⁸ Motor.—Those that carry impulses, or sensations, from the brain. They are also called efferent nerves. Sensory nerves are sometimes called centripetal nerves, because center-seeking, and motor nerves for the similar reason are called

centrifugal nerves. As their names indicate, the former are nerves of sensation proper, while the latter are nerves that control the motions of the body or of any part of it.

3⁸ Mixed or compound.—Several of the cranial nerves are compound, or dual, in their functions, such as the trifacial, which arises from a sensory and a motor root.

3⁷ The spinal cord. (1⁷ Brain. 2⁷ Nerves.)

1⁸ Of what it consists.—A gray axis surrounded by white matter, and investing membranes, occupying the spinal canal. Its length is about eighteen inches; weight, one and a half ounces, or $\frac{1}{3}$ of the weight of the brain.

2⁸ Its functions.—It acts as a conductor to and from the brain, and by reflex action controls the movements of the limbs and exerts a certain control over the organs of digestion, respiration, and circulation.

2⁵ **Sympathetic system.**—(1⁵ Cerebro-spinal system.)

1⁶ Of what it consists.—A double chain of ganglia situated on either side of the spinal cord and connected with the nerves of the spinal cord and the nerves of the brain by means of transverse connecting nerves. These ganglia are also connected with the organs of the chest and abdomen.

2⁶ Function.—To regulate the processes of organic life, the inhibitory and vital processes.

3⁵ The Special Senses in their relation to psychology.

1⁶ The Sense of Smell.

1⁷ The nerve of smell.—Olfactory, which arises from the anterior portion of the base of the cerebrum and is spread out upon the surface of the turbinated bones. It is peculiar, in that it is the only nerve in the body known to contain gray matter in its axis. Its sensorial end-plates are known as the olfactory bulbs.

2⁷ The excitant.—The floating particles of odorous matter coming in contact with the delicate Schneiderian membrane, which invests the nostrils.

3⁷ The result.—The nerve is irritated and the sensorial excitement is the sensation of smell.

2⁶ The Sense of Taste.

1⁷ The nerves of taste.

1⁸ The inferior branch of the trifacial nerve, also called the "gustatory nerve," which supplies the front half of the tongue.

2⁸ The glosso-pharyngeal, so called because distributed to both tongue and throat.

2⁷ The excitant.—Matter in a state of solution, passing over the tongue.

3⁷ The result, or sensorial excitement.—The sensations of flavors and tastes.

4⁷ Peculiarities.

1⁸ Modifications of the sense of taste.—Sweetness and sourness, detected in particular by the gustatory nerve; and saltness and bitterness, detected by the glosso-pharyngeal. Potassium chloride, sodium sulphate, and other substances are exceptions.

2⁸ Sensations of touch detected by the tongue.—
Roughness, smoothness, oiliness, pungency,
starchiness, etc.

3⁸ Sensations of smell apparently detected by
the tongue.—In the case of articles having an
aroma the smell seems closely allied with the
taste, but by closing the nostrils while tasting
such substances the deception will be ob-
served. (See the subject of “acquired per-
ceptions.”)

3⁶ The Sense of Hearing.

1⁷ The nerve.—The auditory nerve, which arises
from the medulla oblongata and supplies the in-
ternal ear.

2⁷ The excitant.—The vibrations of the media in
which the sensorial end-plates of the auditory
nerves are situated, caused by the vibrations of
the external air, which have been induced by the
sudden change in position of some material ob-
ject.

3⁷ The result.—The sensorial excitement in this
case results in a knowledge of the many varie-
ties of sound. By experience we gain concepts
of the direction, distance, and intensity of the
differentiated energy producing the sound
waves.

4⁶ The Sense of Sight.

1⁷ The nerve.—The optic nerve, which has its
origin in the anterior portions of the cerebrum,
and whose sensorial end-plates terminate in the
retina. The olfactory and the optic are the
only cranial nerves arising directly from the
cerebrum.

2⁷ The excitant.—The waves of ether, which occupies the interstellar space and the intermolecular spaces of the atmosphere. For a clear discussion of the cause of light and how it is communicated, the student is referred to any good work on physics.

3⁷ The result.

1⁸ Primarily considered, it gives us a knowledge of color and form.

2⁸ When assisted by touch, hearing, and experience it gives us notions of size, distance, roughness, smoothness, and many other qualities of objects. This is probably the most remarkable and wonderful of the senses when considered from a psychological standpoint. (See "acquired perceptions.")

5⁶ The Sense of Touch.

1⁷ Nerves of touch.—They have no special names, although sometimes called tactile nerves. They belong to the spinal cord, hence, to the cerebro-spinal system. They end in peculiar sensorial end-plates in the cutis and other investing membranes.

2⁷ The excitant.—Properly, touch involves pressure or actual contact of objects with portions of the body supplied with these nerves, the fingers being most sensitive to touch. The tip of the tongue, however, possesses this power to a very high degree.

3⁷ The result.—The information thus derived is probably the most extensive and diverse of all we gather by sense-perception.

4⁵ A general observation.—It will be noticed that in this outline of the special senses three things were in each case considered: the excitant, the part of the sensorium particularly affected, and the sensorial excitement, or the sensation proper. These are the three necessary antecedents of sense-perception.

5⁵ Conclusion of this topic.—It will now be noticed that all the outline from 4², page 14, to this point has dealt with the topic, "The relation of the soul and body." We now take up the study of the powers of the soul, but shall have frequent need to think of this relation of the soul, that which really knows, feels, and wills, to the body, that of which we are so prone to think as knowing, feeling, and willing.

5² The Powers of the Soul.

1³ Its General Powers.—Consciousness, Attention, and Conception.

1⁴ Def.—Those powers of the soul distinguished from the faculties, not coördinate with them, but connected with them all; in consciousness the sensibility is usually exercised; in attention, the will usually assists the sensibility and the intellect.

2⁴ General Functions.—They can not act separately from each other nor from some one or more of the intellectual faculties.

3⁴ Distinction.—A *faculty* is a power under the control of the will, having some particular work of its own to do.—Hewett.

4⁴ Analysis.

1⁵ **Consciousness.**—See “Self-Consciousness.” See page 41.

1⁶ Def.—Consciousness is the general power of the soul by which it knows its own acts and states, and itself as the knower.

2⁶ Authors quoted.—Consciousness can not be defined.—Hill. Consciousness is the power the mind has to know its own acts and states, and to know them as belonging to the Ego.—Hewett. Consciousness is the immediate knowledge the soul has of its own phenomena.—Schuyler. Consciousness is the inner perception, the perception of our thoughts and feelings.—Putnam. Consciousness is the power of the mind by which it knows its own acts and states.—Baker.

3⁶ Use of the term.—Denotes both an act and the power to which the act is referred.

4⁶ Etymology.—*L. con* and *scio*, indicating that along with knowing an object, I know also the knowing.

5⁶ Objects of consciousness.—They are all psychical phenomena, actual and present.

1⁷ Distinction.

1⁸ Consciousness is immediate knowledge.

2⁸ Knowledge of external objects is mediate.

2⁷ Classes of objects of consciousness.

1⁸ The Ego.—We are conscious of the Ego as thinking, feeling, and willing.—Hewett. We are not conscious of the

soul, nor of the soul as knowing, feeling, and willing, but of the knowing, feeling, and willing.—Schuyler, with whom I agree on this point. I can not conceive of a consciousness of the soul itself, but I certainly can be conscious of the knowing, feeling, and willing of the soul.

- 2⁸ Acts or states.—We may be conscious of the activity of the mind in perceiving, remembering, etc.
- 3⁸ All psychical phenomena.—The soul is conscious of all its phenomena. The realization of these phenomena is the state of consciousness.
- 4⁸ The non-Ego.—Sir William Hamilton held that we may be conscious of the non-Ego, which is generally denied.
- 5⁸ Products.—We may be conscious of our thoughts and feelings, which are the results of psychical action.
- 6⁶ As to time of consciousness.—Consciousness can neither be before nor after a phenomenon. We are conscious of a phenomenon only at the instant of its occurrence. We are not conscious of things we remember, but of the concepts of them, which must be immediately before the mind. We may also be conscious of a present concept of that which is future.
- 7⁶ To which special faculty of the soul most closely connected.—It is itself an act of the intellect, though implied by all psychical phenomena—cognitions, feelings, and volitions.

8⁶ Kinds of consciousness.—Schuyler.

1⁷ Natural consciousness.—Immediate knowledge of all three classes of psychical phenomena.

2⁷ Ethical.—Reflection applied to moral states.

3⁷ Abnormal.—As exhibited by persons who imagine others are noticing their awkwardness, dress, etc.

1⁸ Due to morbid sensitiveness.—Hewett.

2⁸ To a real or supposed feeble condition of body.

3⁸ To undue pride or self-love.

4⁸ To a knowledge of unworthiness.

9⁶ Degree of consciousness.

1⁷ Of certain organic phenomena, such as appetites, we are scarcely conscious.

2⁷ The stronger the cause which induces psychical activity, the stronger the degree of consciousness.

10⁶ General conditions of consciousness.

1⁷ A living subject who is conscious.

2⁷ A faculty of consciousness.

3⁷ A psychical phenomenon, the only kind of objects of consciousness.

11⁶ Relation of Consciousness and Attention.

1⁷ By attention, any of the degrees of consciousness may arise into the region of clear consciousness.—Baker.

2⁷ Attention is often spontaneous. In this it is like consciousness, and may be termed "voluntary consciousness."

12⁶ Relation of consciousness and cerebration.

1⁷ Unconscious mental activity.—Strictly speak-

ing, there can be no unconscious mental activity, but many cases have been cited where there seems to have been mental activity without consciousness.

2⁷ Unconscious cerebration.—In such cases of apparent mental activity it is not improbable that brain activity may be unaccompanied by mental activity. Brain activity may become reflex, like muscular habits. It is not improbable that mental activity may be started in a certain direction and become so intense that it will continue unconsciously to work in that line until the result is accomplished, when the cerebration becomes conscious again.

13⁶ Cultivation.—Consciousness can not be cultivated, as it is not under the control of the will.

2⁵ Attention. (1⁵ Consciousness.)

1⁶ Etymology.—*L. ad*, meaning toward, and *tendere*, to stretch.

2⁶ Def.—It is the concentration of consciousness in one direction and upon one object.

3⁶ Authors quoted.—The self-governing intelligence applying itself to what it wills.—Compayre. The power the mind has to bring all its forces to bear on one thing.—Hewett. The voluntary directing of the energy of the mind toward an object or an act.—Steele. The power of exercising active self-direction.—White. Attention is conscious or unconscious.—Day. Although under the control of the will, it produces no result alone, and of itself.—Hewett.

It is not a special intellectual faculty.—Hill. The voluntary determination of the intelligence to objects of knowledge. See Dewy and Jâmes.

4⁶ How the term is applied.

1⁷ As applied to external objects it is known as observation, which includes both stages of cognition—perception and judgment.

2⁷ As applied to subjects of our own consciousness it may be designated reflection, which includes intuition and judgment. For an explanation of these terms, see outline.

5⁶ Classes of attention.—Voluntary and involuntary.

1⁷ Voluntary.

1⁸ Etymology.—From *L. volens*, the will.

2⁸ Def.—The active direction of the mind toward any object of knowledge, either external objects or objects of consciousness.

3⁸ Elements of voluntary attention.

1⁹ The mind must have had experience in order to perceive relations.

2⁹ The mind must have sufficient development to interpret that experience.

4⁸ Age at which first experienced by the child.—About 3 to 6 months.—Gordy.

5⁸ Functions.

1⁹ Development of interest in things not naturally attractive to us, but beneficial to us.

2⁹ Development of continuous attention, concentration, that the mind may direct its own energies.

2⁷ Involuntary.

1⁸ Etymology.—*L. in*, without, and *volens*.

- 2⁸ Def.—That attention which results from the influence exerted upon the mind by the thing attended to, in and of itself.
- 3⁸ Also called non-voluntary.
- 4⁸ Causes in children.—Gordy.
- 1⁹ The quality of sensations, or their character as pleasurable or painful.
- 2⁹ The intensity of the sensation.
- 6⁶ Knowledge depending on attention.
- 1⁷ The objects of knowledge to which attention may be directed include everything, material objects and objects of consciousness, upon which mental force may be made to bear.
- 2⁷ Dr. Gordy says what we are conscious of depends upon attention, as does also what we perceive, remember, recollect, believe, feel, and will. (The student should determine in what ways what we feel depends upon attention. Is *seeing* a feeling? Is *hearing*?)
- 7⁶ **Relation of attention to mental activity.**—When our *brain* activities are thoroughly habitual there is no attention, but it is doubtful if there is any *mental* activity in such cases. Authors generally admit that there can be no mental activity without attention. Can we attend to more than one thing at a time? “In a case of perfect attention the mind’s forces are all brought to bear upon one thing, but experience shows that in imperfect attention the mental force is divided.”—Hewett. It is said that we could reach no conclusion in comparing two things unless the mind have both before it at once. But we believe it possible for the attention to vi-

brate from one to the other in rapid succession. Try it in close analysis or comparison, and see if the attention must not be wholly upon the one while it is forming concepts of it with which to compare the concepts formed of the other. Sir William Hamilton says, however, that the mind can attend to as many as six things at once, but that the intensity is weakened in proportion to the number of objects before the mind. See Steele, Schuyler, Hewett, Gordy, Sully, Dewey, Hamilton, Royce, James.

8⁶ **Laws of attention.**

1⁷ Especially with children, whatever is curious, odd, bright, noisy, etc., attracts the attention and develops it.

2⁷ Whatever occasions strong emotions of pleasure or of pain claims the attention.

3⁷ The degree of the attention will vary with the exciting cause or stimulus.

4⁷ Variety of related objects attract the attention.

5⁷ Attention is more likely to be aroused if the object accords with one's tastes and tendencies.—Baker.

6⁷ Weber's Law.—In order that a sensation may increase in quantity in arithmetical progression, the stimulus must increase in geometrical progression—which expresses a general truth.

9⁶ **Conditions unfavorable to attention.**

1⁷ Too frequent repetition.

2⁷ Abrupt or rapid transition from one subject to another.

3⁷ Prolonging an effort to weariness.

- 4⁷ External influences that are more exciting stimuli than those designed to be kept before the mind.
- 5⁷ Mental agitation from fear, etc.
- 6⁷ Tasks too difficult to comprehend.
- 7⁷ Ill health causing bodily pain.
- 10⁶ **Motives proper to employ to secure it.**
 - 1⁷ On the part of the pupil.
 - 1⁸ The fear of pain, in exceptional cases.
 - 2⁸ The love of praise. To be used with caution.
 - 3⁸ The hope of future good.
 - 4⁸ The desire to excel in merit.
 - 5⁸ The motives of duty: do the right because it is right.
 - 6⁸ All proper incentives to study. The Royal Seven.—Dr. White.
 - 1⁹ A desire for standing or rank.
 - 2⁹ A desire for the approbation of equals and of superiors.
 - 3⁹ A desire for activity and power.
 - 4⁹ A desire for knowledge.
 - 5⁹ The hope of future good.
 - 6⁹ A sense of honor.
 - 7⁹ A sense of duty.
- 2⁷ On the part of the teacher.
 - 1⁸ You must be interested in your subject.
 - 2⁸ Speak in your natural tones; be careful that you do not speak loud.
 - 3⁸ Express your thoughts clearly—do not confuse by too many words.
 - 4⁸ Usually *stand* before your class.
 - 5⁸ Direct your *next* question to the most inat-

tentive pupil, if the attention is good with few exceptions.

6⁸ Very seldom teach with a book in your hand and your eyes on the book.

7⁸ Set the example of close attention.

11⁶ Growth of attention.

1⁷ The early life of a child is almost a continual exercise of this power, the stimuli being presented through the senses, especially of sight, touch, and hearing.

2⁷ Cultivation.—As the attention is under the control of the will it can be cultivated. This may be done by a persistent exercise of the will power over the mind's movements. Like the law of habit, it grows by repetition under proper circumstances.

3⁷ Rules for cultivating the attention.

1⁸ Have your pupils to observe objects closely.

2⁸ Have your pupils to write long sentences from dictation. (Length of sentence depends very largely upon grade of pupils.)

3⁸ Have your pupils carry out lengthy calculations in mental arithmetic.

4⁸ Have them reproduce all analyses given by the teacher.

4⁷ Results of concentrated and prolonged effort.—Genius is simply a persistent, continuous attention. Without it, the greatest natural genius is doomed to failure. With it, any student can command success.

3⁵ **Conception.** See Consciousness, Attention.

1⁶ Etymology.—From *L. con*, meaning with, and *capere*, to take, signifying a taking or grasping together.

2⁶ Varied use of the term.

1⁷ Formerly used to denote the power, the process, and the product of forming general ideas.

2⁷ Recent authors have chosen *concept* to denote the product of conception.

3⁶ Def.—Conception is the process of forming a general notion, or idea, through the operations of analysis, abstraction, and generalization.

4⁶ Authors quoted.—That process of elaboration by which the intellect forms general notions of classes of objects having common attributes.—Schuyler. The process of forming abstract or general ideas.—Hill. The process of forming a general notion of a class of similar objects.—Baker. The power by which we see with the mind's eye.—Hewett. The whole mental activity by which the complex process of analysis, abstraction, and generalization is performed.—Putnam.

5⁶ Processes, or steps of conception.

1⁷ Presentation.—That step in the formation of ideas which consists in presenting the objects of knowledge through sense-perception. Some call this step observation.

2⁷ Comparison.—That step by which objects of knowledge are presented to the mind by noting their points of similarity.

3⁷ Abstraction.—From *L. ab*, off or from, and *trahere*, to draw. That process by which we “draw off” for further attention, the common characteristics of the objects examined.

4⁷ Generalization.—*L. genus*, meaning kind. That process in conception by which we select the common attributes found in an entire class of objects. It embraces synthetic specification, or the formation of species from individuals; and generification, or the formation of genera from species.

5⁷ Denomination.

1⁸ Def.—That step by which we assign names to the classes formed by generalization, and these classes, with the concepts of them, become embodied in verbal signs.

2⁸ What it embraces: Nomenclature.—The collection of the names applied to the classes of objects grouped in a science. Terminology.—The collection of the names of these parts and properties of individual objects belonging to a science. (Condensed from Schuyler.)

6⁶ Relation of conception to classification.

1⁷ Classification is forming groups of objects having common qualities,

2⁷ While conception is forming a general notion of the class of such objects.

7⁶ What the term conception embraces.

1⁷ It is not a faculty.—It is a general power of the soul, largely under the control of the will, but it accompanies each of the mental powers, and produces no specific result alone.

2⁷ The act of the mind and the product of this act.

3⁷ Concepts.

1⁸ Def.—A concept is a combination of common attributes into a single term, but it is a mental product, not a verbal or written expression.

2⁸ Classes.

- 1⁹ Simple concepts.—The simple mental products of the representative power; see images and ideas.
- 2⁹ General concepts.—The mental notions of a class of objects. The simplest act of thinking is the forming of the general concept, or notion.—White.
- 3⁹ Other terms.—Simple concepts are called individual concepts, and general concepts are called logical concepts.
- 4⁹ Difference between them.—The former represent individual things, or objects, while the latter represent “a bundle of attributes that belong to every one of a class to which the term may be applied.”

8⁶ Cultivation of conception.

- 1⁷ Why it may be done.—Because the will has almost exclusive control over our conceptions.
- 2⁷ How it may be done.—Hewett.
- 1⁸ Avoid “parrot” recitations, for in them you have words without their accompanying concepts.
- 2⁸ Avoid mechanical reading and meaningless mathematical work.
- 3⁸ Induce accurate perceptions of objects studied through the senses; hence, cultivate sense-perception.

9⁶ Relation of conception to education.

- 1⁷ It is essential to scientific knowledge.—Not an accumulation of isolated facts, but of facts grouped in classes according to known laws, and known by a suitable nomenclature.

- 2⁷ Steps of conception necessary to a scientific knowledge.—Abstraction and generalization in particular.
- 3⁷ Conception is developed by linguistic study.
 - 1⁸ Language is made up largely of general terms, hence conception is developed.
 - 2⁸ It calls forth the habit of comparing.
- 4⁷ It affords a criterion for the order of study. In the growth of the mind there are three essential processes :
 - 1⁸ Apprehension of facts.—For example, objects must be presented to the senses.
 - 2⁸ Analysis of facts.—For example, the parts of things studied must be separated.
 - 3⁸ Synthesis of relations.—The common characteristics of things studied must be united under general terms.
- 5⁷ The method of developing abstract ideas.—Condensed from "Bain's Education as a Science."
 - 1⁸ The selection of particulars should be such as to show all extreme varieties.
 - 2⁸ The instances cited should bring out the agreements.
 - 3⁸ The accumulation of the facts should be continuous, until the effect is produced.
 - 4⁸ A sudden flash of agreement between things in many respects different is what is aimed at.
 - 5⁸ Aid can be derived from tracing the cause and effect. This is the crowning notion of science.
 - 6⁸ The number of instances necessary varies with the character of the things.
 - 7⁸ The name and the definition should be given along with the general notion, when it is formed.

2³ The Soul's Individual Powers, commonly called the psychical powers (but general powers are also psychical). See General Powers, page 26.

1⁴ The Intellect.

1⁵ Def.—The faculty of knowing.—Hill. The soul possessing or exercising the power to know.—White. To think is the same thing as to know and comprehend.—Compayre.

2⁵ Etymology.—From *L. inter*, between, and *legere*, to gather; indicating that knowledge is gathered in the transition from one experience to another.

3⁵ Its functions.—Sully.

1⁶ Discrimination.—The knowing of differences.

2⁶ Assimilation.—The knowing of resemblances.

4⁵ The product of knowing.—Knowledge.

1⁶ Def.—That condition of certitude in the soul that arises when realities or relations are consciously apprehended.—Hill.

2⁶ Objects of knowledge.—White.

1⁷ Subjective, or subject-objects.—The acts and states of the soul and their products.

2⁷ Objective, or object-objects.—External material objects.

3⁷ Relational, or relation-objects.—The relation of objects, whether discerned intuitively or by thought.

3⁶ Kinds of knowledge.

1⁷ As to manner in which known.

1⁸ Scientific.—Knowledge properly classified.

2⁸ Unscientific.—Unclassified knowledge, simply information.

2⁷ As to its stage in the soul.

1⁸ Primitive.—Crude, first knowledge, as gained by the use of the perceptive powers alone.

2⁸ Developed.—Knowledge in which the significance, relation, and use of what has been gathered by the perceptive powers are centralized and classified by the apperceptive powers, and known by conception.

3⁷ As to powers of Intellect, by which known.

1⁸ Presentative knowledge.—The knowledge the soul has of itself and things immediately about it through self-consciousness, sense-perception, and intuition.

2⁸ Representative.—Knowledge the soul has of objects and their qualities when neither is actually present to the senses, but re-presented by ideas.

3⁸ Elaborative.—Presentative knowledge worked out by purely psychical processes into higher and more general forms.—Hill.

4⁸ Constitutive.—Knowledge acquired by an examination of postulates and hypotheses.

5⁵ Intellectual powers.—Three classes.

1⁶ Presentative powers.—Three in number. The presentative powers may be called the *acquisitional* powers, since only by their use can the soul acquire knowledge.

1⁷ Self-Consciousness.—Authors generally

make no distinction between consciousness and self-consciousness. For a study of the former, see "General Powers." There may be the following distinction :

1⁸ Consciousness includes the three elements in every act of knowledge: The knowing subject, the object of knowledge, and the states of the soul as affected by the object of knowledge. But self-consciousness is limited to the soul's knowledge of itself in the act of consciousness.

2⁸ Forms of self-consciousness.—Hill.

1⁹ Spontaneous.—May be called inherent, such as savages possess—a consciousness without an inquiry into cause and effect.

2⁹ Reflective.—"That energetic realization of self-existence acquired by profound reflection upon the nature and cause of our beings."

1¹⁰ Its normal forms.—The philosophical and the ethical.

2¹⁰ Its abnormal forms.—The precocious, the egotistic, and the hypochondriacal.

2⁷ Sense-perception.

1⁸ Def.—The soul's power to know material objects, to know the non-Ego. It is the foundation of all our knowledge, but not the immediate source of all knowledge, as we may gain knowledge by intuition and self-consciousness also. As indicated by the term itself, it is perception through the senses.

2⁸ Etymology.—From Latin *per*, meaning through, and *capere*, to take. This implies taking in knowledge through one or more of the senses.

- 3⁸ Uses of the term.
- 1⁹ To designate a power.—We speak of the perception possessed by the soul.
 - 2⁹ To designate an act.—As “your perception of sound is not acute.”
 - 3⁹ To designate the thing perceived.
- 4⁸ The physical conditions of sense-perception.
- 1⁹ Material object, or external excitant, capable of furnishing an impression.
 - 2⁹ The nervous organism, or sensorium, adapted to receiving and conveying impression.
 - 3⁹ The sensorial excitement, or the actual excitation of the sensorium. These three conditions of perception may be called the antecedents of perception.
- 5⁸ The psychical elements of sense-perception.
- 1⁹ Perception proper.—The act by which the external object is known. An act or process of the mind immediately successive to a sensation, by which we refer this sensation to something external as its cause.—Steele.
 - 2⁹ Sensation.—A state of mind produced by some external object or influence operating on the sensorium. The pleasures or pains which immediately follow a material phenomenon.—Compayre. A cognized affection of the nerves.—Hewett.
- 6⁸ **Classes of sense-perceptions.**
- 1⁹ An original perception is one that is obtained from the excitation of a single sense, and that the one exercised.
 - 2⁹ An acquired perception is given by one sense as a sign of knowledge usually gained by another.

1¹⁰ Examples.—By the sound in the stethoscope the physician knows the condition of the heart, though he can not see it. By rapping on a barrel we know by the sound whether it is empty, partly filled, or entirely filled. Here the sense of sound gives us an acquired perception that might be given by the sense of sight. (Let the student give six other examples of acquired perceptions.)

2¹⁰ Classes of acquired perceptions.

1¹¹ Those of touch are the most valuable. To the artisan they are a kind of mechanical conscience.

2¹¹ Of smell.—The odor of a peach will cause us to identify the object.

3¹¹ Of taste.—By taste we have perceptions of objects commonly known to us by smell.

4¹¹ Of hearing.—We have perceptions of a person by the familiar sound of his footstep.

5¹¹ Of sight.—We judge of distance by sight, also the intensity of color and distinctness of outline. We judge of the magnitude of objects by distance and by comparing them with other objects known to us or in the same view with other objects. (Why does the sun appear larger when near the horizon than at midday?)

7⁸ Classification of the Senses.

1⁹ Molar, or dynamical senses.—Tactile, the sense of touch, and acoustic, the sense of hearing.

- 2⁹ Molecular, or chemical senses.—Dialytic, the sense of taste, and catalytic, the sense of smell.
- 3⁹ Intermolecular, or etheric senses.—Thermic, the sense of temperature, and photic, the sense of sight. (The student should tell why each of these terms is so used.)

8⁸ Percepts.

- 1⁹ Def.—A percept is a simple and single presentation of sense-perception—an isolated fragment of knowledge. Any object of knowledge as known by us is a group of percepts. Putnam says a percept is a complete mental product of the act of perceiving. It is the individual notion we get of an object by our senses while we are exercising our senses upon it. (See Dewey, McCosh, Lindner.)
- 2⁹ Difference between percept and concept.—When our senses cease to act upon an object, the notion that persists or returns is a concept of it.—Hewett. When several successive and related percepts are united into one psychological whole the result is a concept, particularly a sense-concept.
- 3⁹ Difference between percept and image.—A sense-concept, or a percept revived by an act of the memory, is usually called an image; but it is doubtful if percepts of smell, sound, and taste may be revived into images. They may be called sense-concepts, however.

9⁸ Relation of perception to education.

- 1⁹ Sense-perception furnishes the crude material for all mental activity, except that mentioned in intuition and the soul's knowledge of itself in self-

consciousness, which together include much less than sense-perception.

- 2⁹ The growth of the perception is the growth of our discriminative power ; that is, our consciousness of differences and agreements.
- 3⁹ A study of the laws of perception teaches us that the earliest studies of childhood should be objective and presentative. (See chapter on "Observation of Children.")
- 4⁹ Concrete facts and not abstract ideas should be imparted, and by actual observation whenever possible.
- 5⁹ The method of study should be that of object lessons.
- 6⁹ The improvement of sense-perception is attained by exercise.
- 7⁹ The degree of education and the kind of knowledge the child has already obtained through sense-perception before he enters school should be recognized there, and his training continued according to the laws of mind growth. The perceptive faculty should continue to be exercised.
- 8⁹ These facts are the basis of Kindergartenism, which was founded by Frederick W. Froebel, a German thinker, 1782-1852, who borrowed the idea from John H. Pestalozzi, a Swiss educator, 1746-1827. The etymology of the word kindergarten really means a children's garden, a place where the child-mind can be naturally developed by exercise in the lines of activity in which the child-mind delights. Here is an all-important thought for teachers of primary grades.

3⁷ Intuition.—See 1⁷ Self-consciousness, etc.

1⁸ Def.—That power of the soul by which we know certain fundamental things without being taught.
—Hewett. The power of mind which makes us acquainted with simple, primary ideas and truths.
—Putnam.

2⁸ Relation.—Knowledge that appears to come of itself by some law of mind, but not by any process of reasoning.

3⁸ What intuition embraces.—Ideas and truths.

1⁹ Intuitive Ideas.

1¹⁰ Def.—Ideas that spring from the mind's own energy.

2¹⁰ Classes of intuitive ideas.

1¹¹ Ideas of space.—Evidently space is not known through the senses, nor by self-consciousness.

2¹¹ Ideas of duration are intuitive.

3¹¹ Ideas of time are intuitive.

4¹¹ Ideas of being.—All men naturally, intuitively, believe in their own existence.

5¹¹ Ideas of right and wrong.—Children naturally have an idea of right and wrong at a very early age. Teachers should place much stress upon this fact in dealing with the young child. Some authors deny that ideas of right and wrong are intuitive. The student should attempt to answer the following questions: Does a little child have an idea or conception of right

and wrong without being taught? Have savages ideas of right and wrong?

6¹¹ Ideas of personal identity.—I can not rid myself of the idea that I am the same person I always was. No testimony, evidence, or argument could change my conviction; hence the idea is intuitive.

3¹⁰ Nature.—A knowledge of intuitive ideas is innate, and for that reason intuition may be called natural reason. Idiots are lacking in intuition, while an insane person may lose thons intuition and still reason logically. (Explain how this can be possible.)

2⁹ Intuitive Truths.

1¹⁰ Def.—Truths which every sane and sound mind apprehends at once, without the aid of memory, judgment, or reason.

2¹⁰ Synonyms.—Necessary truths, self-evident truths.

3¹⁰ Characteristics, or tests.—If a truth possesses the following characteristics it is intuitive :

1¹¹ Universality.—It must be the truth, everywhere and at all times.

2¹¹ Self-evidence.—They can not be demonstrated. No amount of evidence can make them more distinct.

3¹¹ Necessity.—To contradict any intuitive truth is at once manifestly absurd. We can not disbelieve them.

4¹¹ Singleness.—No intuitive truth can be resolved into other truths—they can not be analyzed into simplicity.

4¹⁰ Examples of such truths.

1¹¹ Two things can not occupy the same space at the same time.

2¹¹ The whole is equal to the sum of all its parts.

3¹¹ All axiomatic truths.

2⁶ **Representative Powers.** See 1⁶ Presentative.

1⁷ Def.—Those intellectual powers by which objects, their qualities and relations, not actually present to the senses, are represented by concepts, ideas, and images. Let the student see the definition of each of these terms.

2⁷ Illustration.—A year ago I witnessed a memorable scene in Chicago. At that time I had immediate or presentative knowledge of the objects about me. To-day I have a representative idea of that scene that still gives me a distinct knowledge of it.

3⁷ May very appropriately be called the *expressional* powers, since by their use it is made possible to express what the soul has acquired.

4⁷ Classification.

1⁸ **Phantasy.** (2⁸ Imagination. 3⁸ Memory.)

1⁹ Def.—The power of the soul to reproduce its past acts and states spontaneously and involuntarily. The images thus reproduced are not recognized as products of past experience, and usually seem as present realities. They are not reproduced as they existed in the reality.

2⁹ Etymology.—From the Greek *phantazein*, to cause to appear.

- 3⁹ When exercised.—When the other intellectual powers and the will are at least partially passive. It occurs in reverie, dreaming, delirium, somnambulism, hypnotism, and insanity. The first is the simplest form.
- 4⁹ Distinction between phantasy and memory.
- 1¹⁰ The function of phantasy is to reproduce.
- 2¹⁰ That of memory is to recognize.
- 5⁹ Causes.—“A heat-oppressed brain,” disordered stomach, anticipation of future pleasures, brooding over real or imagined wrongs, and various forms of disease.
- 6⁹ Characteristics of the idea reproduced by phantasy.
- 1¹⁰ It is less vividly realized than the original, because not a true reproduction.
- 2¹⁰ The ideas are slowly combined.
- 3¹⁰ The representative image usually contains fewer elements than the original.
- 7⁹ The modes of reproducing images.
- 1¹⁰ By physical stimulation.—Hill says sounds have been known “to ring” in the ears for fifteen days after a musical concert.
- 2¹⁰ By physiological stimulation.—By overworking the body, by sleeping too soon after a meal, or as the result of disease.
- 3¹⁰ By psychical stimulation.—In phantasy the images may magnify or minify the reality beyond a possibility; stimulation as a result of excessive feelings of pleasure or of pain—in the former case we may be led to build “air-castles.”

2⁸ Imagination.

1⁹ Def.—The power to modify and recombine images and ideas. Sense-concepts are not reproduced in imagination. (Why?)

2⁹ Activities of the imagination.—Ruskin.

1¹⁰ Associative, as exercised by the painter who imagines an object less than its real size.

2¹⁰ Penetrative, when one seeks out the central idea in connection with an object.

3¹⁰ Contemplative, when one is led to employ other images in connection with an object.

3⁹ Limits.—Imagination recombines truthful concepts into complex images and pictures unlike anything known, but still within the limits of possibility, while phantasy combines without regard to law or possibility. Baker says "Phantasy simply recalls, memory recognizes, but imagination constructs," to which we would add, Phantasy recalls and reconstructs without regard to the possible.

4⁹ Varieties of imagination.—Hill.

1¹⁰ Scientific, in which the end is to realize more completely the true relation of things. It has three forms—mathematical, mechanical, and philosophical.

2¹⁰ Artistic, the end being to realize such relations as will give pleasure to our æsthetic nature, under the guidance of sensibility. Its forms are, poetical, pictorial, and architectural.

3¹⁰ Ethical, the end being the realization of an ideal character and conduct, such as will

satisfy the convictions of conscience, under the guidance of the will. This last form is by no means the least important. It should be the constant aim of the teacher to cultivate thons own ethical imagination, and to hold up constantly to the pupils' view the ideal manhood and womanhood. Here is one of the most fertile fields in which the teacher may sow the seeds of right moral training.

5⁹ Relation of imagination to education.

1¹⁰ Used in acquiring knowledge.

1¹¹ In reading we must exercise the imagination in combining into mental pictures the elements of thought suggested.

2¹¹ In listening we must do the same. Comparatively few people can listen well.

3¹¹ In studying science. — For instance, in chemistry: atoms and molecules are invisible. In astronomy: the solar system as a whole is not presented to the senses. In geology: we can picture geological periods only in succession. In geometry: we can comprehend figures by the aid of the imagination.

4¹¹ In acquiring immediate knowledge we must use it. The senses give us only fragments of knowledge, which must be combined and unified in the mind.

2¹⁰ Used in rhetorical production.—In composition it aids us to grasp the subject; to form a plan; in the search for material; in arranging this to meet a purpose; in the selection of figures of speech.

3¹⁰ Other uses of imagination.—Hewett.

1¹¹ For pure enjoyment. How can its exercise afford us enjoyment?

2¹¹ Imagination may lighten life's burdens.—In leading us into the contemplation of new scenes, in leading us into fancy, in leading us to anticipate better things in this life and a better life to come.

3¹¹ It gives vividness and force to language.

4¹¹ It is essential to success in some of the most practical affairs of life. Illustrate.

5¹¹ It makes possible all that art gives us, both of enjoyment and of culture.

6¹¹ It gives us the idea of personal excellence toward which we strive.

7¹¹ To the teacher, it may be of great service in imparting knowledge; it may assist greatly in governing, especially in the case of small children. The successful building of good character is not possible without appeal to the imagination.

4¹⁰ General laws of imagination.

1¹¹ In imagination we use the materials derived from our experience.

2¹¹ We only imagine particular and concrete notions, while we may think abstract and general notions.

3¹¹ The imagination tends toward the production of ideals only.

4¹¹ The imagination constructs according to the laws of association, which see under "Memory."

5¹⁰ The training of the imagination.

1¹¹ The characteristic of an undisciplined mind.—
Superfluity of images and ideas, disorderly,
lacking in unity and design.

2¹¹ Aim of the educator.—To prune away redun-
dancies, to supply deficiencies, and restore
unity and order in the mental storehouse.

3¹¹ Means of training.

1¹² By having pupils observe nature.—“In
her visible forms she speaks a various
language.” Lead pupils to interpret this
language. The schools have not yet
placed sufficient stress upon this obser-
vation work to be done by the pupil.
Possibly it is because teachers have not
yet sufficiently observed the *child*.

2¹² By practicing the paraphrasing of poems.

3¹² By the study of imaginative literature.

4¹² By having pupils practice writing on sub-
jects purely imaginative, construct ques-
tions and problems, and make efforts at
poetry. This wonderful faculty is very
active in children, and should be carefully
“drawn out” by the teacher.

6¹⁰ Phases of imagination.—White.

1¹¹ Modifying phase.—Appears very early in the
child’s life, and includes, 1st, the imagining of
one thing to be another known thing; 2d,
the imagining of a known object, material or
spiritual, to be enlarged or diminished, or oth-
erwise changed.

2¹¹ Constructive phase.—Eminently the school

phase, and is used in teaching reading, geography, history, etc. In this phase the imagination recombines the concepts formed by reading or "hearing-language" into possible wholes consistent with the subject imaged.

3¹¹ Creative phase.—The imagination that furnishes the artist, inventor, and discoverer with their ideals, and characterizes the dramatist, poet, and novelist.

3⁸ **Memory.** (1⁸ Phantasy. 2⁸ Imagination.)

1⁹ Def.—That representative power which brings before the mind concepts of absent objects, causing us to recognize and reknow them as once known.

2⁹ Authors quoted.—The soul's power to represent and reknow objects previously known or experienced.—White. The power of the mind to retain, to reproduce, and to recognize its previous acquisitions.—Putnam. The capacity to retain, and the power to recall, represent, and recognize our previous cognitions.—Schuyler. That intellectual function which preserves and renews inner states of consciousness.—Compayre. The reproduction of some idea once present in the mind but not now so, with a reference of it to its proper place in time.—McLellan. See James.

3⁹ **The acts of memory.**—Three in number.

1¹⁰ Retention.

1¹¹ Def.—That function of the memory which produces a continuation of concepts in a passive state of intelligence.

- 2¹¹ Its importance.—Recollection or reproduction depends upon retention. Retention depends upon the degree of attention mainly.
- 2¹⁰ Reproduction.
- 1¹¹ Def.—That function of memory which brings again into consciousness the concepts of objects once known but not now present.
- 2¹¹ Importance.—Our acquisitions of knowledge are of no use to us unless we can recall them with readiness and accuracy when we will. See "Laws of Association," page 58.
- 3¹⁰ Recognition.
- 1¹¹ Def.—That function of memory which re-knows concepts when recalled as being former acquisitions of the intellect.
- 2¹¹ Importance.—It is the last and completing act of memory. Retention and reproduction would both be useless without recognition.
- 4⁹ Varieties of memory.
- 1¹⁰ Perfect and imperfect.—In perfect memory we recognize the time and place; *i. e.*, when and where the object was formerly known. Very few of our acts of memory are perfect.
- 2¹⁰ Voluntary and involuntary "memory."—These terms are more properly applied to recollection or reproduction. Voluntary recollection is the recalling of past acquisitions through an effort of the will. This recognizes a very important

law, that the power of recollecting is increased by exercise. Involuntary recollection is the recalling of concepts through their association with ideas already in the mind, and without an effort of the will.

5⁹ Conditions on which to improve memory.

1¹⁰ Make your acquisitions under the most favorable circumstances of physical and mental states.

2¹⁰ Preserve the vigor of the mind by exercise.

3¹⁰ Frequently repeat your cognitions and recollections.

4¹⁰ Make frequent and accurate reproductions of your acquisitions through the medium of language—write them and speak them.

5¹⁰ Always ascertain relations of objects, and store up concepts of them as classified knowledge.

6¹⁰ Always strive to identify reproduced ideas, understand what you may think you know but in reality only seem to know.

6⁹ Forgetfulness.

1¹⁰ Amnesia.—A loss of memory; caused by diseases or wounds affecting the brain, old age, excessive use of the memory, or by anæsthetics.

2¹⁰ Degrees of forgetfulness.—Schuyler.

1¹¹ When the displacement is momentary.

2¹¹ When the withdrawal of attention is voluntary.

3¹¹ When the recollection requires an effort.

4¹¹ When we can not, at present, recall.

5¹¹ When repeated efforts to recall have failed.

7⁹ The Laws of Association.

1¹⁰ Def.—They are laws governing the relation of impressions. They were first laid down by Aristotle. (See “History of Education.”)

2¹⁰ Classification.

1¹¹ Primary, or objective, laws.—Refer to the relations existing between thoughts, or the objects of thought.—See McCosh’s Psychology, also James, Dewey, Royce.

1¹² The Law of Similarity.—Objects or thoughts which resemble each other tend to recall each the other.

2¹² The Law of Contrast.—Contrasted ideas tend to recall each other. Many objects, also, when presented to the mind tend to recall other objects in contrast with them.

3¹² The Law of Contiguity.—Objects and ideas associated in time or place tend to recall each other.

1¹³ Contiguity of time.—Very important in school instruction. We associate Washington and the Revolution; Lincoln and emancipation; and many of the most important facts in history.

2¹³ Contiguity of place.—Events are associated with the places at which they occurred; the metals with the mountainous countries; the grains with the fertile soil, and numerous other examples in history and geography.

2¹¹ Secondary, or subjective, laws.—Refer to conditions of both mind and body which contribute to make the association of ideas more complete.

1¹² The relation of cause and effect.—By reason the mind will arrive at a conclusion when a cause is known, or accurately presume the cause when the effect is known. The tendency of many teachers is to pass hurriedly from effect to cause or from cause to effect without having pupils determine or theorize upon probable cause or probable effect. Not only is memory greatly strengthened by the careful observance of this law, but the reason also is strengthened.

2¹² Exclusive attention and clear discrimination during the acquisition of knowledge will tend to fix that knowledge.

3¹² Familiar objects and thoughts often reviewed tend to make knowledge more permanent—hence, the importance of repetition, even though it be merely mechanical with children. *Review!*

4¹² If our individual feelings, habits, and tendencies are favorable, ideas will be most permanent.

5¹² The more recent the experience the more readily it may be recalled.

8⁹ Cultivation of the memory.

1¹⁰ General rule.—If the teacher or the student adhere strictly to the application of the laws of as-

sociation in their connection with attention and reproduction, a sound and vigorous memory will be the reward.

2¹⁰ Special rules.

1¹¹ Skillful questioning brings the mind in close contact with the relations between facts, and these relations become the bonds of association for the memory.—Dr. Baker.

2¹¹ For the greater part, memory should be a memory of ideas rather than of words.

3¹¹ Interest is the mother of attention, and attention is the mother of memory; hence, cause an interest to spring up in the mind of the student.

3¹⁰ Mnemonic devices. — Simonides, a Greek poet of 500 B. C., was the first to use this method. The value of mnemonics is questionable. In some instances they assist what may be called the mechanical memory. The stanza concerning the number of days in each month is a servicable mnemonic. Also the stanza concerning the Presidents. See Sully's Hand-Book for an excellent treatise upon the subject of memory culture.

3⁶ Thought Powers. 2⁶ Representative.

1⁷ Def.—The powers of intellect by which we form and rationally apply general conceptions.

2⁷ May also be called the *relational* powers of the intellect, since by their use the soul apperceives the relation between the percepts resulting from the presentation of the facts of knowledge to the soul through the acquisitional powers. This power to correlate percepts into the concepts of the expressional is called *apperception*. See article on "The New Pedagogics" in this volume.

3⁷ Classification.—Conceptive Generalization, Judgment, and Reason.

1⁸ **Conceptive Generalization**, or Conception.—

The author thinks this one of the intellectual powers inseparably connected with the other functions of the intellect, hence has classed it as a General Power, which see, page 35.

2⁸ **Judgment**.

1⁹ Def.—The process of asserting agreement or disagreement between ideas.—Hill.

2⁹ A judgment.—The psychical product of judging when expressed in a proposition is called a judgment.

1¹⁰ Parts of judgments.—Every judgment embraces the expression of two related ideas. One of these is the subject, the other the predicate. They are joined by the copula. These are the three necessary parts of a proposition.

2¹⁰ How a judgment is obtained.—By affirming or denying one thing of another. It can only be arrived at by comparing the agreements, relations, and differences between ideas or things.

3⁹ What judgment implies.—No one can form a judgment without a preëxisting knowledge of the agreements or differences between the things to be judged. This knowledge may be obtained almost immediately before making a judgment concerning them, but it must be known.

4⁹ Age at which judgment is first developed.—It is an earlier faculty than reason, and is probably manifest in observing children at the age of 3 or 4 years. Dr. White thinks that the judgment awakens at the age of 3 and reason at the age of 6, generally. See view expressed under "Reason," on page 64.

5⁹ Classification of judgments.

1¹⁰ As to origin.

1¹¹ A primitive judgment.—Not derived from any other judgment, and may be intuitive or a mere assumption.

2¹¹ A derivative judgment.—One derived from other judgments, and may be called demonstrative when capable of proof, and problematical when incapable of proof.

2¹⁰ As to relation of their two ideas.

1¹¹ Affirmative.—When the two ideas are consonant, or possess agreement; as, "The man is insane."

2¹¹ Negative.—When the two ideas are not compatible, or possess disagreement; as, "The man is not insane."

3¹⁰ As to their scope, or quantity.

1¹¹ Singular, or particular.—Those made about single things or parts of a class; as, "This man is insane."

2¹¹ Universal.—Those relating to classes or the whole of a subject; they must be true at all times and in all places; as, “No work of man is enduring,” showing also that singular and universal judgments may be affirmative or negative.

4¹⁰ As to form.

1¹¹ Categorical.—When the relation is expressed without qualification by conditions; as, “Man is mortal,” “Some men are wealthy.”

2¹¹ Conditional.—In which the judgment is conditioned on an hypothesis, an alternative, or both; as, “If Mars is a fixed star, it is a sun.”

6⁹ Relation of judgment to education.

1¹⁰ How far can we encourage independence of judgment in the learner? Hill says “To develop power without conceit is the teacher’s difficult task.” The teacher should lead out and guide the self-confidence of the pupil, but give them to see that their judgments must be subject to the revision and correction of the teacher.

2¹⁰ Cultivation of the judgment.—The exact sciences and experiments in the laboratory are the best means of cultivating the judgment. All lessons gained by experience strengthen the judgment.

3⁸ Reason. See Conception and Judgment.

1⁹ Def.—The process by which we prove the truth or falsity of a proposition.

- 2⁹ Authors quoted.—A process of inference in which a new judgment is derived from other known judgments.—Hill. A combination of judgments brought together in such a way that the result is a legitimate conclusion of the comparison.—Compayre. The process of comparing judgments.—Putnam.
- 3⁹ **When do children begin to reason?**—I believe that children reason at a much earlier age than we have been wont to believe. The very fact that the child is inquisitive is sufficient evidence that the child reasons. I would say there are three stages of reasoning (by this I do not mean abstract reasoning):
- 1¹⁰ The "What" period.—Usually about the age of two years the normal child asks a great many *whats* about almost everything thon sees.
- 2¹⁰ The "Why" period.—By the time the child is four years of age many *whys* are asked.
- 3¹⁰ The "How" period.—Before the child is six thon asks *how*, and if a boy, he will be attempting to find out how things are done, even though he must destroy the object to learn the answer to his question.
- 4⁹ The forms of reasoning.—When expressed in full, the process of reasoning is expressed in a regular series of judgments.
- 1¹⁰ Implicit.—When the grounds for the conclusion are assumed as understood and admitted. See enthymeme.
- 2¹⁰ Explicit.—When the whole series of necessary judgments are formally expressed. See syllogism.

5⁹ Methods of reasoning.**1¹⁰ Induction.**

1¹¹ Def.—The process of inference, or the process of inferring general judgments from particular instances.

2¹¹ Authors quoted.—The process of rising from particular truths to general truths.—Compayre. The operation of reaching a general truth by an examination and comparison of facts.—Sully. Reasoning from individuals or particular classes to general facts.—Steele. In short, it may be called proceeding from the known to the unknown, from fact to law.

3¹¹ Its form.—One of the three terms may be omitted, but three propositions may be used in induction. The conclusion reached by induction may be used as a premise in deduction, which see.

4¹¹ Basis.—“The belief in the uniformity of the laws of nature is the ground upon which we argue from the known to the unknown.”—Dr. Baker. See Ladd, Baldwin, De Garmo, and James.

5¹¹ Processes of complete induction.

1¹² Observation, or experiment.

2¹² Stating an hypothesis.

3¹² Reversing by deduction, and verification.

2¹⁰ Deduction.

1¹¹ Def.—An act of judgment by a mediate process in which we arrive at a particular conclusion based on a general law.

2¹¹ Authors quoted.—The process by which we derive a particular truth from a general truth.—Hewett. Deduction descends from principle to consequence.—Compayre. Reasoning from a general fact to a particular fact.—White. See Baldwin.

3¹¹ Forms of deduction.

1¹² The enthymeme. — An enthymeme is an abridged syllogism, a statement in which a conclusion is reached by omitting one of the three propositions of the syllogism. The omitted statement must be evidently true in order that the conclusion may be undeniable.

2¹² **The syllogism.**

1¹³ Def.—That form of deduction in which the conclusion is reached by means of three related propositions.

2¹³ Parts.

1¹⁴ Major premise.—The proposition containing the major term and expressing an affirmation of the class; "All men make mistakes."

2¹⁴ Minor premise.—The proposition that states that the individual in question belongs to the class named in the major premise; "Charles Brown is a man."

3¹⁴ Conclusion.—The proposition expressing the resulting judgment based on a comparison of the two premises; "Therefore, Charles Brown makes mistakes."

3¹³ The terms.—The subject of the conclusion

is the Minor Term; the predicate of the conclusion is the Major Term; the term with which these two are compared is the Middle Term.

4¹³ Illustration.—In the example given, “Charles Brown” is the minor term; “makes mistakes” is the major term; “man” is the middle term.

6⁹ Relation of reason to education.—Inductive reasoning is best developed by a study of the natural sciences, while deductive reasoning is greatly improved by a study of mathematics. The importance of developing the reasoning powers of pupils can hardly be overestimated by the teacher.

2⁴ **Sensibility.** (1⁴ Intellect, page 40.)

1⁵ Def.—The soul exercising the power to feel.

2⁵ What it includes.—Corporeal feelings and psychological feelings.

3⁵ The sensibilities.—The term is applied to the various states of feeling.

4⁵ Classification.

1⁶ Corporeal feelings.—Outlined in connection with the nervous system and sense-perception.

2⁶ Psychological feelings.

1⁷ Def.—States of consciousness induced by the influence of external objects upon the nature of the soul itself.

2⁷ Classes.

1⁸ The Emotions.

1⁹ Def.—Simple feelings arising in the mind in consequence of some knowledge of certain facts, or some general consciousness of condition.—Steele, p. 174.

2⁹ Classification.

1¹⁰ Instinctive.—Those feelings of joy or sorrow experienced especially by young children, usually aimless, and occasioned by an accumulation of energy or a lack of energy.

2¹⁰ Rational.—Those feelings that arise in the soul in consequence of some activity of the intellectual powers. They may be excited through the senses, or by recollection, or by anticipation.

1¹¹ Egoistic emotions.—Pertain to self.

1¹² Joy and sorrow.—These terms include many forms of gladness and depression, mirthfulness and melancholy, etc.

2¹² Content and discontent.—May be made to include satisfaction and dissatisfaction.

3¹² Pride and humiliation.—With the first might be placed self-love, self-respect, etc.

4¹² Hope and fear.—May be subdivided.

2¹¹ Altruistic emotions.—Pertain to others.

1¹² Sympathy and antipathy.

2¹² Love and hatred.—These may be classed under the affections, which see.

3¹¹ Æsthetic emotions.

1¹² Wit, humor, the ludicrous, etc.

2¹² Beauty, grandeur, sublimity, etc.

4¹¹ Ethical emotions.

1¹² Emotions of right and wrong.

2¹² Of duty, responsibility, obligation, etc.

2⁸ The Affections.

1⁹ Def.—They are feelings of the soul directed toward external objects, such as the love of God, of home, of country, of kindred, etc.

2⁹ Classification.

1¹⁰ The beneficent affections.—Feelings of good-will toward those we wish to benefit in some way.

1¹¹ Domestic affections, such as parental love, filial love, and fraternal love.

2¹¹ Social affections, very numerous.

1¹² Friendship, gratitude, sympathy, compassion, etc.

2¹² Patriotism and philanthropy.—Patriotism is that feeling which causes us to place first in our affections the ethics of our families, then of our neighbors, then our state, and next our country. Philanthropy is a feeling of good-will going out to the human race in general with a desire to make all mankind better.

2¹⁰ The defensive affections.—Putnam, p. 138.

1¹¹ Def.—Feelings that prompt to self-defense or the protection of others.—Same.

2¹¹ Resentment.—“ It springs up in the soul when we believe ourselves to have been insulted, injured, or wantonly wronged by deliberate intention, and when the injury or wrong may work serious harm to us in person, property, or reputation.”
—Same, p. 139.

3¹¹ Indignation.—The feeling which prompts one to protect and defend others who have been unjustly injured or wronged.

3¹⁰ The maleficent affections.

1¹¹ Def.—Those feelings directed toward others with the intent to do them harm.

2¹¹ Some of the forms.—Anger, hate, prejudice, jealousy, envy, revenge, malice.

3⁹ Importance of the affections.—The teacher should strive to understand human nature. A careful study of the affections in their relation to the work of the school is of vast importance to every teacher. (See “Observation of Children.”)

3⁸ The Desires.

1⁹ Def.—The longings of the soul for some real or supposed good not possessed.

2⁹ Classification.

1¹⁰ Desire for property.—The mainspring of industry, all advancement and civilization depend on it.

2¹⁰ Desire for knowledge.—This springs directly from the feeling excited by curiosity. Its stimulus must not be overlooked in the education of a child.

3¹⁰ Desire for self-preservation.—It may be instinctive or voluntary. Needs no illustration. No principle in our beings is stronger than this one.

4¹⁰ Desire for power.—This desire is strong and natural, and should sometimes be curbed and sometimes encouraged.

5¹⁰ Desires for liberty, happiness, esteem, and general worthiness.

3⁴ **The Will.** (2⁴ Sensibility. 1⁴ Intellect.)

1⁵ Def.—The soul's power to do, or to exert conscious action toward some definite end.

2⁵ Forms of activity.

1⁶ Non-voluntary or reflex.—Does not include functions of the will as the term is ordinarily used, but functions of the *doing* power of the soul nevertheless. All our random, reflex, and instinctive movements come under this head.

2⁶ Voluntary, activity of the will proper.

1⁷ Steps in the process.

1⁸ Objects are presented to the mind, through the sources of desire, motive, or sense-perception; the objects may be physical or mental.

2⁸ Examination and analysis.—The mind requires some time to perceive relations before an act of the will is completed. This step includes the excitation of a feeling.

3⁸ Choice.—Desire prompts the possession of the object, while aversion prompts rejection. Here perfect freedom of choice is exercised.

4⁸ Executive volition.—The final act of the will, by which desires culminate into reality of possession.

2⁷ This voluntary activity alone subject to training.

3⁵ Moral training.

1⁶ Depends upon the training of the will.

2⁶ Methods.

1⁷ As knowledge tends to awaken feeling, it is all-important that right feelings be awakened. In some children these feelings may be dormant, but by skillful training the feelings may be awakened, then directed.

2⁷ Stories effectively told, biographies beautifully expressed, some fairy tales judiciously told, all may tend to cultivate the moral nature.

3⁷ Feelings may be ennobled by use of literary gems, songs, and works of art. Schoolrooms should be adorned with suitable pictures. For outlines of lessons on "Moral Training" see Dr. E. E. White's "School Management."

4⁷ By example.—Moral instruction from mouth to ear will hardly reach the heart—it must come from the heart and the life of the teacher. (See "Qualifications of the Teacher" in *Outlines of Pedagogy*, page 74.)

OUTLINES OF PEDAGOGY.

- 1¹ **Definition.**—See “History of Education,” following this outline.
- 2¹ **Synonyms.**—Science of Teaching, Paideutics, Science of Education.
- 3¹ **Basis of Pedagogy.**—The one comprehensive end of pedagogy is to prepare man, a being of capacities, susceptibilities, and possibilities, for the most complete fulfillment of the purposes for which he was created.
- 4¹ **Means of accomplishing these purposes.**—Physical, Psychical, and Technical, or power, knowledge, and skill.
- 5¹ **Kinds of education based on the means.**
- 1² **Physical education.**—The development and training of the bodily powers.
- 2² **Moral education.**—The development and training of the moral faculties, with a view of forming character.
- 3² **Intellectual education.**—The development and training of the intellectual powers along the laws governing the processes in the acquisition of knowledge.
- 6¹ **The elements.**—Knowledge, power, and skill.
- 1² **Knowledge as a result of teaching.**

- 1³ Original.—Obtained without the aid of a teacher, by observation and reflection, chiefly from nature.
- 2³ Recorded.—Knowledge obtained from books, paintings, sculptures, newspapers, etc.
- 3³ Tuitionary.—That obtained directly from the teacher. In each case the mind can receive knowledge only when it puts forth an inner energy.
- 2² Power.
 - 1³ Inherent.—The capacity of the intellectual, moral, and physical natures to receive ability from without, or their capability for doing when called into activity.
 - 2³ Acquired.—These intellectual, moral, and physical powers developed into lines of activity they would not have taken without tuition.
- 3² Skill, or educated and trained power.
 - 1³ School phase.—The trained power to practice the arts embraced in school instruction, such as writing, reading, singing, and use of language and numbers. See Parker's "Pedagogy."
 - 2³ The technical phase.—Includes manual training and the practice of power in the mechanic arts.
- 7¹ **Conditions** of the application of principles to school government.
 - 1² **Subjective.**
 - 1³ **The teacher.**
 - 1⁴ **Thons qualifications.**
 - 1⁵ Good scholarship.—Thons knowledge must be thorough, fresh, and progressive.

- 2⁵ A thorough knowledge of the human mind.— Any artisan would be foolish to undertake a work without knowing his material. A doctor might as properly administer to the sick without knowing the body, as the teacher without knowing the mind. The time is rapidly approaching when teachers will be required to make special professional training for the great work of the teacher before they will be allowed to enter the profession.
- 3⁵ A thorough knowledge of methods.— Although teachers must not blindly adopt the methods of others, yet in all professions and trades one must know what methods have been most successful in the hands of others.
- 4⁵ Skill in government.— Executive ability and tact.
- 5⁵ Thoroughness of discipline.— Coming from a knowledge of human nature and of the end to be reached.
- 6⁵ Must understand thons pupils personally.— Must know their wants—moral, intellectual, and physical.
- 7⁵ Heart power.—Thon must have love for thons pupils, and a kindness not feigned.
- 8⁵ Self-control.—Thons control of thonsel self must be complete and thons motives always pure.
- 9⁵ Positive morality.—Thons character should be above reproach, thons life pure, that thons example may be worthy.
- 10⁵ Respect for the profession.—Not only a thorough scholar, but a lady or a gentleman of dignity, who has a strong desire for professional improvement, and to create a healthy sentiment for the profession on the part of all intelligent people.

2⁴ Thons authority.

- 1⁵ Must possess a certificate.
- 2⁵ Must be legally employed.
- 3⁵ Must have the support of thons board of education.
- 4⁵ Must be vested with all the authority necessary to carry out every detail of school management.
- 5⁵ Must, though in the least conspicuous manner possible, let it be known that thon *is* in authority.

2³ The pupils.

1⁴ **Their rights.**—To equal attention, equal confidence, equal immunities (unless privileges are abused), and equal personal rights.

2⁴ **Their duties.**—To themselves, to be cleanly and neat in attire; to their teacher, to be kind, respectful, and obedient; to each other, to keep the Golden Rule; to school property, a careful preservation; to the community, respectful.

3⁴ Their offenses.

1⁵ Against themselves.—In tearing and soiling their books or clothing; in idleness; in bad manners; in saying and doing immoral things.

2⁵ Against the teacher.—In disobedience and disrespectful obedience; in slandering the teacher in conversation with schoolmates or others.

3⁵ Against other pupils.—Encouraging them to do wrong; accusing them falsely; trying to create a sentiment of dislike upon the part of

their teacher or their schoolmates; injuring their books, clothing, or playthings.

4⁵ Against the community.—Making a noise; throwing stones; molesting property; disrespect and rudeness toward the public.

5⁵ Against God.—Profane language; vulgar language and conduct; scoffing at religion and religious customs; general immoral conduct.

4⁴ Their rewards.

1⁵ The approbation of teachers, parents, and friends.

2⁵ Promotion in school or in society.

3⁵ Successful life resulting from discipline.

4⁵ Present material gain, such as prizes and other gifts.

5⁵ A feeling of satisfaction and pleasure at having done every duty assigned.

5⁴ Their punishment.

1⁵ Deprivation of privileges in school, on the playgrounds, or private immunities.

2⁵ Private or public reproof; teacher may sometimes use sarcasm, but with care.

3⁵ Confinement, in schoolroom or solitary; from privileges of school or play.

4⁵ Additional duties and repairing damages.

5⁵ Public and private acknowledgment of offense, with petition for pardon and for reinstatement in class and in the confidence of the teacher and school.

6⁵ Corporal punishment, private or public, usually the former; must accomplish purpose for which intended, or it will be harmful.

7⁵ Suspensions and expulsions.—Severe, but sometimes necessary. The claims of justice and the good of the school and of society demand protection.

2² **Objective conditions**—the environments.

1³ The schoolroom.

1⁴ It should be attractive and convenient.

2⁴ It should be well heated and ventilated.

3⁴ It should be adorned with pictures.

4⁴ The light should enter from left and rear.

5⁴ It should not be overcrowded.

2³ The furniture.

1⁴ Desks should be single, and of pattern designed on sanitary principles.

2⁴ Recitation seats should afford ample accommodations.

3⁴ The teacher's desk should be provided with a waste-basket.

4⁴ The blackboards, pencils, erasers, etc., should be the best, and always kept in order.

5⁴ Heating and ventilating appliances should be perfect, and kept in good order. A reliable thermometer and an accurate timepiece should be supplied to every schoolroom.

3³ The apparatus.

1⁴ Should have a good globe.

2⁴ Good wall maps and special charts.

3⁴ Appliances for illustrating practical principles of weight, measures, mensuration, etc.

4⁴ If grade of school is advanced, physical and chemical laboratories are essential.

5⁴ A good school library.—No teacher can fully

comprehend the disadvantages to which thons school is subject without a good library, until teacher and school have had free and frequent access to one. Every school should have a library of carefully selected books. Teachers should encourage the organization of school libraries. Boards of education may appropriate money annually for this purpose. Pupils can not be led to independent and thorough investigation without books.

4³ An educational sentiment.

1⁴ The community must appreciate the efforts of her earnest educators.

2⁴ The economy in public administration should not all be visited on the schools.

3⁴ Boards of education need to possess more than average intelligence. An institution as sacred as the public school needs to be in the hands of earnest, thoughtful, progressive men or women.

8¹ Some Universal Principles.

1² Formulated by Joseph Payne, London, Eng.

1³ First.—“Mind and body are mutually interdependent, and coöperate in promoting growth.”

2³ Second.—“Faculty of whatever kind grows by exercise.”

3³ Third—“Exercise involves repetition, which, as regards bodily actions, ends in habits of action, and as regards impressions received by the mind, ends in clearness of perception.”

- 4³ Fourth.—“The exercise of the child’s own powers, stimulated but not superseded by the educator’s interference, ends both in acquisition of knowledge and in the invigoration of the powers for further acquisition.”
- 5³ Fifth.—“Natural education consists in the development and training of the learner’s powers, through influences of various kinds, which are initiated by action from without and met by corresponding action from within.”
- 2² **Formulated by Dr. E. E. White** in his “Pedagogy.”
- 1³ First.—“Teaching, both in matter and method, must be adapted to the capability of the taught.”
- 2³ Second.—“There is a natural order in which the powers of the mind should be exercised, and the corresponding kinds of knowledge taught.”
- 3³ Third.—“A true course of instruction for elementary school cuts off a section of presentative, representative, and thought knowledge each year.”
- 4³ Fourth.—“Knowledge can be taught only by occasioning the appropriate activity of the learner’s mind.”
- 5³ Fifth.—“The primary concepts and ideas in every branch of knowledge must be taught objectively in all grades of school.”
- 6³ Sixth.—“The several powers of the mind are developed and trained by occasioning their natural and harmonious activity.”
- 7³ Seventh.—“In the teaching of any school art, clear and correct ideals should inspire and guide practice.”

OUTLINES OF METHODOLOGY.

- 1¹ **Definition.**—That division of the science of education that treats of the principles of teaching as applied to schoolroom practice.
- 2¹ **Extent.**—Methodology belongs to both the science of teaching and the art of teaching. See “Laurie’s Institutes of Education.”
- 3¹ **Universal Principles of Instruction.**
 - 1² Make instruction practical, and find some good in everything.
 - 1³ Call for the reproduction of everything you teach and a practical application to the wants of a successful life.
 - 2³ Proceed from the known to the unknown by making everything known useful in obtaining new knowledge.
 - 2² Follow the natural order of development of the faculties, as laid down in the subject of Psychology.
 - 3² Cultivate sense-perception in every lesson.—If the thing taught can not be presented to the senses directly, then you should use representative knowledge, and appeal to memory and imagination. If the subject be still more abstract, judgment and reason must aid conception in formulating correct ideas.

- 4² The true secret in the acquisition of knowledge is the self-activity of the pupil; hence, teach to do by having the pupil *do*.
- 5² Teach one thing at a time, and that well. Never leave one subject for another until the pupil understands the first.
- 6² Practice your pupils in the analysis of complex things and in the synthesis of individual things into wholes. Especially applicable in language and mathematics.
- 7² Have your pupils understand distinctly what you wish them to do; they can do best what they see and hear *you* do. Be careful lest you do too much. Do not be overzealous.
- 8² Cultivate the imagination by frequent practice in composition, etc.
- 9² Cultivate the memory by applying the laws of association and by practice.

4¹ Methods in study.

1² Objects.

- 1³ For discipline.—It develops and quickens all the intellectual activities, trains the sensibilities, and refines the affections.
- 2³ For the acquisition of knowledge.—Stores the mind with facts and classifies them; increases the power to think and investigate; gives us an intellectual capital. Banks may fail, houses may burn, winds may destroy, friends may deceive, but an educational capital can not be touched by these.
- 3³ For professional purposes.—We are thus prepared for our professions; it improves our

chances for success; helps us to originate and discover.

2² Incentives.

- 1³ The benevolent desire.—To please parents, teachers, or friends; to do good and secure happiness; to perfect our knowledge and develop the soul.
- 2³ The selfish desire.—To outrank others; to receive the praise of others; to increase our wealth; to make labor easier.
- 3³ The involuntary incentives.—Pleasing stories; fascinating developments or discoveries; artificial stimulation through the senses.

3² Manner.

- 1³ A clearly-defined purpose urges the will.
- 2³ Attention, perception, and conception must be awake.
- 3³ Investigations by analysis, induction, and deduction should be made.
- 4³ Students should note facts learned, and store them away analytically; *i. e.*, place them upon the proper "shelf" of the mind, properly labeled.
- 5³ Should study to know, not to recite.

5¹ The recitation.

1² Objects.

- 1³ To ascertain extent of pupil's preparation.
- 2³ To have pupils reproduce, express their knowledge.
- 3³ To ascertain how well the pupil comprehends.
- 4³ To correct wrong impressions formed in study.

- 5³ To repeat and fix knowledge in the mind.
- 6³ To enable the teacher to supply the deficiencies in the student's mind by giving them further directions.
- 7³ To cultivate power of expression and to quicken the pupil's perception by immediate contact with other minds.

2² Mode of conducting.

- 1³ Depends much upon the branch of study, age of pupil, number in class.
- 2³ By questions propounded in consecutive order, to the entire class, or promiscuously; generally the last.
- 3³ By "Socratic Method"; see "Socrates."
- 4³ Seldom use "leading" questions, or questions that suggest the answer. Timid pupils should sometimes be encouraged by this method.
- 5³ By topical outlines, blackboard drills, etc.
- 6³ By topical recitation by pupil.
- 7³ By requiring answers in complete sentences.
- 8³ Sometimes by essays, lectures, illustrative lessons, experiments, etc.
- 9³ No answer should be allowed to pass if not exactly correct and logical.
- 10³ Skill in conducting recitations reveals the teacher's power as an instructor.

THE HISTORY OF EDUCATION.

Pedagogy.—The theory or science of education, which embraces an inquiry into the principles upon which the art of teaching is based, and inquires into the validity of methods when applied to the laws of mental growth.

Didactics.—The practical application of the principles of pedagogy and psychology to the wants of the growing mind, in helping it to obtain the best food in the best way and at the best time; in short, the art, or practice, of education.

Teaching a profession.—Is it? Education is looked upon by many people as expensive. For this reason cheap (?) teachers are often employed in country districts and in primary grades. They are unqualified professionally, hence fail. By their failures they cast a cloud of disrepute over the profession, which subjects even professional teachers to a want of confidence from patrons. As a result, they are placed on a level with those who are only seeking a pittance for a livelihood, and their salaries are weighed in the same balance. These conditions, and the insecure tenure of teachers, are largely the results of professional ignorance.

What is Education?—It is the development and training of the learner's whole nature by means of the conscious and persistent energy and influence of the

instructor. Much of our education, however, comes from the unconscious tuition of nature, individuals, and institutions.

History of Education.—A complete history of education would be coëxtensive with the history of the development of the human race. Civilization is the direct product of education. The history of education sets forth the influences that have moulded the human race, and records the cause and effect of every step of advance or retreat in human progress. It is the true basis of all history.

Its Importance.—Every educator should study educational history. It is too generally neglected, even by professional teachers. It inspires every educational worker with greater zeal and professional enthusiasm by citing them to the examples and methods of the world's most renowned educators.

China and Japan.—Although we find little of importance outside the history of the Caucasian race, and, outside of Greece and Rome, little of ancient history bearing on the history of education, yet a few nations should be studied. In the Chinese we find the opposite of our educational aims most clearly crystallized. Kong, whose name was Latinized into Confucius, and who lived about 500 B. C., declared that man's destiny and whole duty was to perfect himself. In China all deviation from the customs of tradition is looked upon with disfavor, so that their system is adapted to perpetuate an exclusive national existence. Recent developments prove the Japanese to be a much more progressive people. Many English and American works are translated for use in their schools.

Persia.—Zoroaster, who lived in the sixteenth century B. C., discovered the dualism in all nature—the right and the wrong—and conceived of two coëxistent spiritual beings, Ormuzd at the head of the kingdom of light, and Ahriman at the head of the kingdom of darkness. His doctrine did much to moralize Persia. The Magi were the learned class. It is said that much of the learning of Pythagoras was borrowed from them.

Egypt.—Here, perhaps, is the oldest civilization of the world. She made her highest attainment in the mechanic arts. Psammetichus introduced the Greek and Phœnician elements into Egyptian civilization.

Greece.—Homer tells us that during the Heroic Age, prior to 1100 B. C., education was chiefly patriarchal. With the Dorian Migration family life gave way to state life, hence state education. Dorian, or Spartan, culture made physical strength and warlike skill the objective points in order to maintain the perpetuation of the ruling class.

Lycurgus.—Also a Dorian, who lived about 850 B. C. His laws were very stringent. Children belonged to the state. Boys, if strong, were educated by the state; if weakly, they were destroyed. Girls were left in the parental home.

Solon.—Ionian culture was based on the laws of Solon, born 639 B. C. He favored intellectual pursuits, forbade the sale of girls, and required boys to learn some pursuit. Parents who failed to educate their boys had no claims to the support of their sons in old age.

Pythagoras.—582–500 B. C. Although not a Do-

rian, he was the greatest exponent of Dorian civilization. Thales was his teacher. He established a school at Croton, southern Italy, where he taught music, physics, mathematics, geography, and metaphysics by means of lectures delivered in short, condensed sentences (laconism). He was the first to raise mathematics to a science, and united geometry with arithmetic. The great theorem of the right-angled triangle is his.

Socrates.—Born at Athens, 469 B. C. Began life as a sculptor. Became a student of philosophy, and a teacher of youth and men in search of knowledge. Taught in the streets by questioning all who would listen to him concerning their notions of morality. He gave the impression that he was asking questions for his own information. His fondness for this method of teaching has made it known as the "Socratic Method." His stern morality offended the corrupt party in power, and he was condemned to die by drinking hemlock, 400 B. C. He left no writings, but his teachings are found in Xenophon's "Memorabilia" and in the dialogues of Plato, both his pupils.

Plato.—429-347 B. C. He comprehended Socrates fully. His philosophy, known as the Academic, because he taught in the grove of Academus, is that of idealism. He taught that the soul consists of three parts: (1) The appetite, wild, capable of being tamed; (2) The spirit, which may work in lines of good or evil; (3) The philosophic element. He taught that education is the privilege and duty of the state, and that education is the noblest and most important of all callings. He wrote "Republic," describing an ideal state.

Aristotle.—Greek, 384–322 B. C., was the most noted pupil of Plato. At 47 he became Alexander's tutor. At 50 he established his school known as the Lyceum. He lectured while walking about, hence his school of philosophy became known as the *Peripatetic* (to walk around). He wrote a number of books on various sciences. He held that man should be trained by the state. On a charge of atheism he fled from Athens the year of his death.

Rome.—Numa Pompilius was the first Roman worthy the name of educator. Varro and Cicero wrote on educational subjects prior to the Christian era. Cicero taught that teachers should be just; that punishment should be resorted to only in extreme cases; that the pupil should be made to feel that correction was administered only with the desire to make them better, and should never be administered in anger; that memory should be cultivated; that moral culture should be encouraged.

Dawn of Christian Era.—Seneca was the first Roman writer on education belonging to the Christian era. Quintilian thought that weak-minded children, and children that can not learn, are very few. The Romans do not furnish us with systems of education, but from them we receive many practical suggestions in accordance with common sense and the correct principles of humanity. But the birth of Christ, four years before the beginning of the Christian era, brought about a new religion, and with it a new civilization based on pure humanity. This new religion taught that stagnation is death and progress is life, and that the greatest is the one who does most to elevate humanity.

The Middle Ages.—We hear but little more of education until the 16th century. The early Christians took great interest in the education of their children. Their system sacrificed the intellectual to the moral element of our nature. But for a thousand years prior to the 15th century education was housed in cloisters, books were chained to their owners' desks, and education was possessed by the few. The tendency of the education was to spurn the present world in the interest of the world to come; to foster asceticism, celibacy, transcendentalism, monasticism. Did space permit, an account of the secular education of the 400 years of the Middle Ages and of the knightly education would be given here. The student should study the history of institutions of the Middle Ages.

The Reformation.—Instituted by Martin Luther, 1483-1546. Although Luther could not devote himself exclusively nor directly to the cause, yet his efforts were not fruitless in Protestant Germany. The churches took up the establishment of popular instruction, and he thus became the greatest educational reformer of his century.

Philip Melancthon.—1497-1560, is known as the "Preceptor of Germany." He knew Luther, from whom he drew energy. He was noted for his discretion, mildness, sympathy, and love for children. He has the distinction of having written the first Protestant work on dogmatic theology. His passion found greatest expression in literature. He divided the schools into grades, very much as they are now. He believed in teaching but one language, and in much practice in grammar.

John Sturm.—1507–1589, a Prussian by nativity, a German by nationality. He organized the gymnasium at Strasburg, which numbered several thousand students before his death. His was the first systematic organization of the schools. His course of study was extensive yet systematic; suitable, and sensible. He is the father of *system* in instruction. He formulated the algebraic theorem that bears his name. It will be noticed that Luther instituted an inquiry into the *moral* status of the times, Melancthon an inquiry into the *intellectual*, and Sturm into the *physical*. The work of these and other educators of their day laid the groundwork upon which Bacon, Comenius, and Locke made their pleas. Since then the general tendency has been to develop the being symmetrically along the lines of our threefold nature: the moral, the intellectual, and the physical.

Lord Bacon.—Born in London, 1561, died 1626. Was eloquent and learned. His official career was disgraceful, his morals reprehensible. But he freed mankind from scholastic word-wisdom, and taught that scientific life consists of independent investigation, discovery, and invention. The student must rise from the phenomena to the law, from facts to accurate conceptions.

John Amos Comenius.—1592–1671, a Moravian. Was a minister; was banished by Frederick II. in 1624, and fled to Poland, where he devoted his time to education. He did much for simplifying Latin. He wrote "Orbis Pictus," or the Visible World, in which he expressed more rational views on education than then prevailed. He asked for airy and light school-

rooms, and for plenty of playground as essential to every well-regulated school. He urged the necessity of a harmonious development of the entire human being. He did much to modernize instruction.

Wolfgang Ratich.—Born at Wilster, in Holstein, in 1571. He taught that the young should learn to read, write, and speak their mother-tongue correctly before taking up the study of other languages. To him we owe the much-talked-of and somewhat-abused method of teaching the "A B C's." He taught the letters first, by drawing them slowly in full view of the pupil, noting the form, name, and similarity and contrast of the letters. Without much delay he proceeded to teach reading. He would first read the lesson three times for the pupil, then allow the pupil to read it slowly. "Teach one thing at a time," he said. "Nothing should be learned by rote," yet his method tended to induce rote-learning. He was himself a failure as a teacher.

John Locke.—1632–1704, English philosopher. He said it is education that makes the great difference of mankind. He set little store by mere book-learning. He said that education consists of virtue, wisdom, good breeding, and learning, of which he thought learning the least part. He strenuously objected to the use of the rod. He condemned committing to memory when the subject was not fully comprehended.

Jean Jacques Rousseau.—1712–1778, a Swiss educator of extreme views. His chief maxim was, "Take the road leading directly opposite to the one in use, and you will almost always go right." But few re-

formers have exerted a greater influence upon education. His greatest work is "Emile, or Concerning Education." It needs to be read with great discrimination, yet every teacher should read it. He believed in the cultivation of sense-perception, and in the development of the complete man.

Augustus Herman Francke.—1663–1727, a German educational reformer. His great love for children, and his desire to do something to improve the schools, led him into his life's work. He founded a school for poor boys and girls, an orphan asylum, a Latin school, a teachers' seminary, and a free boarding-school. At the time of his death 10,000 teachers had instructed in his schools, and 250,000 boys and girls and teachers had been taught in them. He was one of the first who saw how much the teacher needed professional training. He became virtually the founder of the scientific schools of Germany.

Johann Bernhard Basedow.—Born at Hamburg, 1723; died in 1790. He was the founder of the philanthropists, whose motto was "everything according to nature." To some extent he followed Comenius. "By all means reduce the wretched exercises of the memory," he said. "Faith in God should first be inculcated. Little memorizing should be done. Pupils should not be forced to study, not even by reproof. A culture of sound reason must come through a truly philosophical mode of thinking."

John Henry Pestalozzi.—1746–1827, a Swiss educator, the founder of "object teaching," and the most celebrated of educational reformers. He made a strong plea for the cultivation of sense-perception. In youth

he was awkward and the butt of fun for his playmates. His feelings were remarkably strong; he was injudicious, and to-day would be considered a poor instructor. He made failures, both financial and educational. Yet he possessed the true educational principles which have since been verified by others. His principles are still at work, permeating and changing modern education into a realization of the "New Education." His chief work is "Leonard and Gertrude."

Johann Frederick Herbart.—A German philosopher, 1776–1841, produced a system of philosophy altogether unlike that which then prevailed. To him we owe our ideas of apperception, the recognizing and interpreting faculty of perception. He was Krug's successor at the University of Königsburg, and was succeeded by Karl Rosenkranz, also eminent in pedagogical psychology. Pestalozzi based much on sense-perception, while Herbart went farther and sought to know how sense-perception could be made the most useful.

Frederick Froebel.—1782–1852, a German educator, the founder of the Kindergarten. He got from Pestalozzi the idea of genuine human development, and had a keener insight and a better discipline with which to apply it. His great work is "The Education of Man." He converted everything that goes by the name of play into instruments for his purpose, and readily transformed play into work. His idea has worked wonders in our system of education, and is gaining ground rapidly.

The Outlook.—Every decade makes great changes in the educational outlook on the future. Everywhere

methods are becoming objective and observational Teaching that does not seek the standpoint of normal or natural methods fitted to the pupil's experience and nature can not be successful. Everywhere we are recognizing the fact that the lack of interest on the part of pupils is due very largely to the ignorance or neglect of the teacher in applying the great principles of mind-growth to the child under tuition. Proper mental activity is not a phenomenon of chance. (See "The New Pedagogics," following this chapter.) Whatever the diversity of views to-day regarding the purposes of teaching arises from a diversity of views concerning the purposes of life itself. The true aim in education is based on the nature and purpose of life. We are now seeking knowledge and discipline for the sake of the soul itself, that its advancement may be toward a realization of the ideal manhood and womanhood.

THE NEW PEDAGOGICS.

There is a philosophy of teaching, based upon the nature of the results to be secured. Founded upon this philosophy, which is natural in every respect, is the science of pedagogics. But the great mass of teachers have not yet recognized the claims of this science. There are still too many teachers who seem to think their mission is to "keep the children under," and to cram their minds with a certain amount of educational pabulum which is to be phonographed out again and measured by the tape-line of examinations and percents. The activities of the child are too often suppressed.

The old theories, if former practices were based on theories at all, are now pretty generally exploded. The new pedagogics recognizes the nature of the child. It studies and everywhere recognizes the laws of nature as ever logical and unchangable. Such a wonderful manifestation of activity as the human mind must grow and develop according to laws implanted in our psychical natures. The new pedagogics seeks to know these laws and discover the phenomena upon which their formal expression is based. Because it is the method of nature, it gets possession of the child and wins thon to the teacher by methods that thons nature can not resist. It makes thon observant. It trains

thons apperception. It stimulates thons moral sense and trains thons reason. It offers the least resistance to thons individual progress. If, under the calcium light of truth, it discovers old theories to be illogical we must not build longer on the old foundation. It is easier and infinitely better to unmask old dogmas and erase what men have written than to turn the tide of human life from its natural channel. The great fraternity of teachers must think upon the movement of the dead centuries toward a higher life.

I here formulate a few propositions, the solutions of which the new pedagogics is working out.

There is a science of pedagogics.—Science is simply the classified related facts evolved from the observation of connected phenomena. No want or desire of the human soul antedates the desire to know. In the history of the race, curiosity has ever been the antecedent of investigation. All down through the centuries we have had the phenomena of mental activities. These phenomena demonstrate that the activities of the soul are always manifested through definite, fixed grooves, which are discovered to be natural and logical, hence scientific. The activities of the mind are not without limit, either in extent or in content. But the mind behaves as though it were a function of a higher activity, the soul, which we have reason to believe is without limit, infinite in extent and infinite in content, because immortal, for we could not conceive of an immortal soul without activity and energy, and activity through infinity (*i. e.*, eternity) could not produce stagnation or maintain sameness of development. Hence the soul as soul must be capable

of indefinite improvement. The mind is not capable of indefinite improvement. The limitation of life alone renders the improvement of the mind finite. It is the purpose of teaching to encourage and direct this development. The goal reached by the mind in its achievements depends upon the direction and extent of the formative influences. It is the supreme purpose of teaching to see that the proper educative influences are supplied. So great and so worthy an end can not be attained by aimless, lawless, or illogical methods. As the mind develops along the lines of natural and immutable laws, it follows that it can not be properly trained without an adherence to those laws. In order to follow these supreme dictates in instruction, they must be known to the instructor. If so related and so complete as to form the basis of a perfect theory, they must constitute a science of pedagogics. Just in proportion to the adherence of teachers to these great principles through the ages have teachers been successful in training the mind. Whatever success any of us may have had in the profession is directly attributable to the application of these principles, though it may have been done in ignorance of them. Colonel Parker says very few teachers have yet recognized (re-cognized) them in teaching. Superintendent Draper says the large army of teachers are already recognizing them. Professor Payne says: "Education can never take its proper place among the learned professions until teachers see that there are really principles of education, and that it is their duty to study them."

Fellow teachers of America, should our profession

be denominated a learned profession so long as we insist by practice that it is not founded on incontrovertible science? Can we go into our several schoolrooms, teach by individual, untried, unscientific methods, without inquiring into the nature of the soul to be trained, and the consequent means alone by which that end shall be attained? Teachers who fail to recognize that the advanced age of thought demands that teaching shall bear the test of reasonable, scientific investigation will soon find themselves in the rear of the throng, without a job.

The science of pedagogics must insist that only natural methods be employed and that reasonable, consistent ends be sought.—The laws of activity upon which man's nature feeds are only an integral part of the great laws of the universe, which can not be controverted. Remove one law from the force of gravitation and the universe is a wreck of matter. Disregard one law in the evolution of the soul and you will have a dwarfed, imperfect soul, unable to fill the complete design of the Creator. All methods used in developing the soul must regard the nature of the thing developed. No one would attempt to train a horse for the turf without first knowing something of the animal to be trained and the end to be secured by that training. We must for the same reason first learn the nature and activities of the soul. The very first principle in education is a due consideration of the nature of the being to be educated. This is often ignored. The new pedagogics does not ignore it. Education can never be mechanical, and every attempt to reduce it to mechanism must inevitably fail. The mind is not

like a mill-hopper, designed for all kinds of feed in unvarying quantity. Although each mind operates by unvarying law, differing activities predominate in each mind. The presence of the living teacher, inspired with the zeal born of a knowledge of the truth, is necessary to insure that each activity is properly regarded, and that each step is firmly taken, modifying his guidance to meet the demands of the individual pupil. Teachers must see that their methods are natural, both to themselves and to the activity of the child mind. To be able to do this their conceptions of life and duty must be right, then they will seek proper ends. "The conviction is more and more being born into men's souls that all development comes through obedience to fixed, eternal, and loving laws." "How can a teacher," says some writer, "look at heaven through a child's soul without catching glimpses of the supreme glory of eternal laws?" How can a teacher fail to be impressed with the supreme dignity of his work and mission? How can a teacher be so blinded to the truth as to have paragraphs committed simply to be repeated, then forgotten because never known? How can a teacher be satisfied with mere lesson-hearing from day to day, with having pupils recite for a mark or a promotion rather than for growth and development, when a knowledge of mind activity teaches us that the thinking powers, the whole intellectuality of our pupils, are lamed and crippled, and their best energies are wasted by such criminal teaching? The sole motive of the teacher should be to assist each pupil to put forth thons highest efforts in the training of the whole being. The teacher should accept nothing

short of the pupil's best efforts. This is the reasonable, consistent end to be sought by the teacher in every lesson. This done, a well-rounded character will be the result.

The Expressional Activities.—The new pedagogics is demanding and enforcing a complete revision in the current ideas of the value and sequence of studies.—In the days of our forefathers a knowledge of the three R's was thought a liberal education. Long ago the three-R business was exploded. I am not so certain that the curriculum that took its place is not to be greatly revised. We are learning to know more of the child from the standpoint of nature. We are fast learning to look upon the child as a being whose development should be directed with the high purpose of the Being who planted those natures, constantly in view. The idea formerly held concerning the child was, that its tendencies were all wrong, that it was naturally predisposed to evil, and that teaching was to suppress the risibilities of the child. Now we are beginning to believe the child's activities naturally right, and the great question with us is to know how to direct them and develop them.

All life has an ultimate purpose.—It is now considered the province, the function, of the school to train for complete living. In man's activities there are three processes in the growth of the mind: First is the acquisitional, or presentative. Just in proportion to our exercise of this activity, or process, will be our fund of knowledge of the non-Ego, or not-self world. Second, we have the reflectional, or thought-evolving activities. In this exercise we get the rela-

tion of the facts presented by the acquisitional. This power to correlate facts is apperception. Third, we have the expressional, or representative activities, by whose exercise we express by language or by art facts or concepts as gathered by the acquisitional and correlated by the reflectional. These activities education must seek to train and develop. The expressional is manifestly impossible without the other two. The reflectional is impossible without the acquisitional. We must seek to train the mind to receive knowledge through sense-perception. First studies must be selected with this aim in view. The new pedagogics believes that in the early formative, receptive period of childhood the senses must be trained, and along with the training of the senses goes the cultivation of the imagination. The old theory, if theory it may be called, was that the child could not exercise its reflectional activities, but that this exercise was left to more mature years. To that end we taught mechanically. We saw-sawed the multiplication table off in blocks. But any one who teaches in that way now is out of touch with the true pedagogical principles of mental growth. However, I think one of the greatest pedagogical blunders has been made by an almost complete neglect of the expressional activities. A man's knowledge is of but little use if of no use to any one but himself. Besides, knowledge is of but little use to one's self if unexpressed. The new pedagogics seeks to have the expressional activities cultivated. For this purpose we have language in every grade of school work; we have numbers, drawing, music, mechanic arts, sloyd, manual training, all of which seek to train the expressional.

The Importance of Psychology. — A teacher can not direct and guide the training of the mind unless thon knows mind by a study of psychology and the history of education. These form the true foundation of pedagogics. The true teacher is a constant student of educational history. Thon will thus escape many impositions. Thon has the decisions of the past to counsel, and is enabled to profit by the mistakes of others, and adopt and adapt their pedagogical successes to thons needs. There are, I am inclined to believe, still a few teachers who do not do this, but close their eyes and ears against even the most decided improvements in education, and are satisfied with themselves. If they would but look into the record of their profession, and especially into the chapters they make themselves, their conceit would soon be broken down. To-day there is no movement in progress in education which is more rapid and more forceful than that towards the professional training of the teacher. Teachers to-day must meet larger exactions than formerly. Still more will be required of teachers to-morrow. Those who do not catch the spirit must go upon the retired list.

HOW TO OBSERVE CHILDREN.

Child-Study is not a fad—it has come to stay. Teachers are earnestly asking, How shall I study my children? How may I profit most by careful observation of the children under my charge? This desire for light will continue until teachers generally, if not universally, will

“Count that day lost whose low, descending sun
Views from their eyes no observation done,”

and will base their methods of teaching on the undeniable principles of applied psychology as verified by their observation of the activities of the child-mind.

Pres. G. Stanley Hall says: “The living, playing, learning child, whose soul heredity has freighted so richly from a past we know not how remote, on whose right development all good causes in the world depend, embodies a truly elementary psychology. All the fundamental activities are found, and the play of each psychic process is so open, simple, and interesting that it is strange that psychology should be the last of the sciences to fall into line in the great Baconian change of base to which we owe nearly all the reforms from Comenius down, which distinguish schools of today from those of the sixteenth century. It is a striking fact that nearly every great teacher in the history of education who has spoken words that have

been heeded has lived for years in the closest personal relations to children, and has had the sympathy and tact that gropes out, if it can not see clearly, the laws of juvenile development."

It is a matter of great importance that teachers should possess the tact and skill necessary in reading the minds of children. The activities of a child's soul find expression in many ways, and it is the first duty of the teacher to study these modes of expression. Skillful teaching consists in properly applying the means of discipline and culture to each individual under tuition. If the teacher fail in the application of the means the end sought will not be attained. To avoid such mistakes the successful teacher studies the content of the child-mind. It is one of Herbart's principles that it is the individual and not the mass that is to be instructed, hence the individual must be studied.

There are several methods of child-study, each of which has its merits. In several colleges the work in psychological laboratories is growing. Mechanical contrivances are used to determine the nature and extent of the child's activities in emotional, intellectual, volitional, and physical life, with a degree of exactness that places the laboratory method above the criticisms that may be attached to methods of mere observation. What usually goes by the term "a study of human nature" is in the main aimless, hence fruitless. The observer must know why thou observes. Thons observation must be directed with the purpose of securing definite results, from which essential didactic conclusions may be drawn. In this way the type of the normal child may be determined, provided the obser-

vations cover a sufficient period of time and a sufficient number of cases. The teacher is also able to see wherein certain children depart from the normal type.

But teachers can not follow the laboratory method. They must, however, have some definite plan of observation, that will lead to a logical classification of results.

The Teacher's Preparation.—The teacher's great work is to lead out and guide the child's activities. This can not be done until the teacher gets into true sympathy with the child. Each period of life is characterized by a distinctive emotional and intellectual activity. We must get into our thoughts and feelings as much of the actual thoughts and feelings of the child as possible before we can properly understand the child. Human life is made up of a series of related selfs, and each being may be called a ladder of as many rounds as there have been successive stages in our growth. Each round is a distinct self. In order that two beings may completely communicate with each other they must adjust themselves to a common level. One or the other must generally come down a few rounds to be on recognizable grounds with the other. This is just what the teacher must do in order to look at childhood from childhood's standpoint.

Child-Study, or Paidology, not General.—Certainly every true teacher studies thons pupils, but usually only by those means that native tact or intuition may suggest. But more definite or more scientific means must be employed in order that the characteristics and laws of mental habits of children may be fully appreciated. We must seek the thoughts

and feelings of children, and then seek to appreciate them. This we may do by observing their unconscious as well as their conscious expressions, and by asking questions, hereinafter classified, concerning their physical, intellectual, and emotional life.

The value of casual observation on the part of the teacher can not be doubted, but if a systematic method were followed results much more satisfactory would be obtained. To assist those who are anxious to systematize their observation of children I have formulated a working outline, as follows :

Biography.—Record the pupil's name, date, and place of birth; names and nationality of parents; occupation of father; general description of the father's disposition, if known; disposition of the mother; how many brothers and sisters; is the child under study the youngest or the oldest? What do you know of thons home life? Are the parents educated? Are there many books in the home? Any music? Are home games encouraged? Is the father a companion to his children? Is the mother companionable? How does the child show the marks of these characteristics? Which parent does the child resemble most in appearance and characteristics? What of the morals of the parents? Are the parents Puritanic in their government? Who are the child's companions? How much of thons life has been spent in the country? In the city? Any other facts concerning the life and environment of the child. Details are more essential than they at first appear.

Health.—What is the child's general state of health? Has any time from school duties been lost by ill

health? If so, at what age and stage of advancement? Ever mentally overworked? Has confinement to the schoolroom always been congenial? Any defects in chest or spine? Any defects in eye or ear? Any trace of heart trouble? Subject to fainting? Easily frightened? Nearsighted? If so, does the parent realize it to be a serious matter? Have you advised to have the eyes examined? Does the health fluctuate? Have you conferred with the parents about all the bodily defects observed?

Physical Features.—Abnormally large or small? Head normal in size and shape? Is the carriage of head erect? The forehead broad, narrow, or flat, receding or straight? Ears large and projecting, or small and close-fitting? Eyes deep-set or projecting? Cheeks round or angular? Nose large or small? Nostrils open or close? Is them outh strait or curved? Lips large or small? Thick or thin? Chin large or small? Dimpled, round, or pointed? Is the expression of the face amiable, haughty, deceitful, honest, cheerful, sad, confiding, pent-up, starved, well-fed, mischievous, sly, sober? Is the chest full or hollow? Shoulders drooping or erect? Is the general appearance awkward, graceful, or proud? Is self-consciousness of bodily defects noticeable? Are hands or feet or general pose of body objects toward which the abnormal self-consciousness of the pupil is directed? Can you absorb the attention of the pupil to such an extent that thou no longer observes thons own awkwardness?

Disposition.—How do the various physical features indicate the disposition? Is the child kind or unkind? Grateful or ungrateful? Careful or careless? Cheer-

ful or sad? Sensitive or indifferent? Respectful to superiors, equals, or inferiors? Can you trust thon? Does thon endure punishment with a spirit of fearlessness and indifference? Does thon resent punishment? Does thon retaliate? Can thon see right from wrong in all cases? Inclined to take the advantage of other pupils? Rejoice in the pleasures and successes of others, or in their failures? Selfish? A leader in games, or a mere follower? How do all these traits of disposition correspond with the disposition of the parent? Does the father see as wrong in the child what is wrong in himself? What general insight do the recitations, conversations, and plays of the child give you?

Exercise of the Senses.—Most knowledge is obtained through sense-perception. Are the senses all normal? (Do not say *yes* to this question too soon.) Test them all thoroughly. Can the pupil appreciate the beauties of nature? No? Then something is wrong. Can the pupil appreciate music? Beautiful sentiment in poetry? If not, then something is wrong. Does the pupil hear accurately what you say? If not, is it the ear or the attention that is at fault? Can thon repeat what has been said? If not, is it the ear, the attention, or the memory that must be cultivated? Can thon see all objects distinctly? Do not accept the pupil's own answers here as conclusive. Do not other pupils see more accurately? Question carefully. Is it the sight or the power of observation that is defective? Test the eyes with a test card, or by other means, to learn if hypermetropia, myopia, astigmatism, or emmetropia exist. Is

the hearing good? Can the pupil distinguish differences in tone and pitch? Distinguish between harmony and melody in musical sounds? If the sight or hearing be imperfect, many of the channels of knowledge are closed. These facts must be known to the teacher. Even so slight a thing as a cold in the head or nose, or catarrh, will very greatly affect a child's aptitude to learn. So will the slightest defect in sight or hearing.

Observation.—Test the power to observe. What kind of objects does the child observe best? Are the distinguishing characteristics observed? Are the many qualities of a thing observed in general, or a few qualities in detail? Test it frequently. Does observation permanently assist the memory of the child? How does repetition affect the memory? How does reproduction affect the child's effort to observe? Are the judgments arising from observation logical? For instance, can the child judge properly of size, distance, form, color? Are things and parts named in the order they depend upon each other? Accurate observation with a view to reproduction will rapidly add to a child's vocabulary, and at the same time furnish the teacher a fruitful means of studying the child.

Sense-Perception.—Does the pupil readily distinguish colors, sounds, forms, names? Does thon hesitate in deciding the classification of familiar objects? Can thon appreciate the beautiful in nature? Does thon apprehend well? Comprehend well? Are thons perceptions chiefly original? Fertile in acquired perceptions? Does the pupil properly judge distances

and sizes? Determine thons judgments as to such lengths as inch, foot, yard, rod, mile; also as to size of pint, quart, gallon, bushel, etc. Can the pupil draw familiar objects? The cultivation of sense-perception goes hand in hand with observation, repetition, and reproduction. Notice, also, what effect your attitude, general appearance, tone of voice, expression of face, and sociability have upon the pupil. Is a word at once recognized when seen? Does the pronunciation of a familiar word occasion a mental picture of it? Do the environments of the pupil under study affect thons power to perceive? Does the pupil usually seek an unfavorable position in recitation? Would thon rather not be called upon to recite? If so, what is the cause? Is the attention of the pupil chiefly on thonself, another person or object, or on the subject at hand? Is lack of attention, and the consequent perception, due to want of knowledge necessary as antecedent? When characteristics of objects are noted by the pupil unassisted, are they the essential or non-essential characteristics? These questions will suggest to the teacher many lines along which to observe.

Apperception.—Can the child apperceive well? Can the child correlate new facts and class them with knowledge previously acquired? In apperceiving the new are points of difference or of similarity noted most readily? The teacher must remember that much that passes through the senses is not understood by the child. By skillful questioning and close observation the teacher will be led to know these difficulties encountered by the child's efforts to apperceive.

Imagination.—Note what kind of mental images

the child forms most readily; the kind the child most delights in, and the kind the lesson at hand requires. Is the imagination fanciful or realistic? Is it creative or reproductive? Does the child readily use the constructive imagination? Test these forms by reproduction stories, original stories by the child, or the conversion of the thoughts of a printed page into a real picture or a drawing or into an oral description. The reading lessons should be fruitful sources for these tests.

Memory.—If the memory is imperfect, does it depend upon the retention, the recognition, or the reproduction? The retention will depend upon all the conditions affecting perception. If retention is poor, seek the cause. Have the repetitions been sufficiently numerous? Are the images recognized clearly? Is the reproduction real or mechanical? Are concepts associated logically in the thing recalled? Did the pupil have experiences with which to associate the facts? Is the pupil's inability to recall due to improper form in which the questions are asked? Much depends upon the skillful questioning by the teacher. Is the pupil's memory a memory of words or of ideas? Does the pupil learn best by oral repetition or by silent conning? Does the pupil recall words and sentences by their position on the page? Does the pupil substitute words of equivocal meaning? Or of equivocal sounds? Many of these facts must be determined by asking the child.

Conception.—Here is a fruitful field for the study of the child. Not infrequently children get erroneous concepts in school that are a source of annoyance in

later years. Ideas of children are often ridiculous and absurd. Determine whether the pupil's concepts are exclusive or inclusive. Do they include more or less than belongs to the object, or to the class, as it may be? When new objects are presented does the pupil readily get the relation of the objects to those already known? Does the pupil require many and varied examples or illustrations before thons new concepts are clearly formed? Can thon quickly classify objects? Can the object be clearly discerned from the pupil's definition? Does the child readily distinguish characteristics, or essential qualities?

Reasoning.—Observe while studying the conception of the child. Test the reasoning faculties by inductive methods. If the pupil be able to understand deductive reasoning, conduct frequent tests in the analysis of wholes, noting carefully every error, the nature of it, the cause, and the most suitable method to use to correct it. What is the extent of the pupil's power to draw inferences? Many such facts can be determined to the satisfaction of the teacher only by the application of frequent tests.

References.—Students will do well to read Pres. G. S. Hall on "The Contents of Children's Minds"; "Mental Development in the Child and the Race," by Baldwin; "The Mind of the Child," by Preyer; "The First Three Years of Childhood," by Perez; Sully, in the *Popular Science Monthly* of 1894-5, on Child Psychology; Lange on Apperception; Report of the International Congress of Educators at Chicago, 1893.

THE LITERATURE OF PSYCHOLOGY.

The author desires to acknowledge the able assistance of Mr. C. W. Bardeen, of Syracuse, C. P. Cary, Professor of Pedagogy, State Normal School, Milwaukee, and Dr. William T. Harris, U. S. Commissioner of Education, in the preparation of this list of works on Psychology and kindred topics. This list will be of great service to teachers and to students in directing their reading and investigation along the lines of these subjects. For a list of books in the German language the reader is referred to the excellent table of references in Rein's "Outlines of Pedagogics," where a complete bibliography of several hundred works is given. The titles indicated by an asterisk (*) are the titles of books required by the State Board of Examiners of Ohio as a course of study for all applicants for High School Life and Special Life Certificates.

Works of Reference.

- Hall, G. Stanley, and John M. Mansfield. Bibliography of Education. Boston, 1886. 8mo.
- Kiddle, Henry, and A. J. Schem, editors. The Encyclopedia of Education. New York, London, 1877, 1883. 8mo.
- Sonnenschein, William Swan. Cyclopedia of Education, edited by Alfred E. Fletcher. Syracuse, N. Y., 1889. 8mo. \$3.75.
- Buisson's Dictionnaire de Pédagogie. \$20.00.

The History of Education.

- Bennett's History of Pedagogics. 50 cents.
 Payne's Short History of Education. 50 cents.
 American Journal of Education, edited by Henry Barnard, 31 volumes, 1855-1881.
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 *Compayre, Gabriel. The History of Pedagogy. Translated by Pres. W. H. Payne. Boston, 1886. 592 pages, 12mo. \$1.60.
 Hailmann, W. N. Sketches from the History of Education. 1891, in the series "Library of Education."
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 *Painter, F. V. N. A History of Education. 12mo. In International Education Series, edited by Dr. W. T. Harris. \$1.50.
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American Education.

- Adams, Francis. Free School System of the United States. London, 1875. 8mo.
 Boone, Richard G. Education in the United States. Its history from the earliest settlements. 1889, 12mo. In International Education Series. \$1.50.
 Frasier, James. Common School System of the United States, and of the Provinces of Upper and Lower Canada, 1867.
 *Mann, Horace, and the Boston Schoolmasters. 8mo.

Contributions to American Educational History. Edited by Herbert B. Adams, and published by the United States Bureau of Education. 19 volumes, covering the following subjects: College of William and Mary, Thomas Jefferson and the University of Virginia, History of Federal and State Education in the United States, and the history of education in states of North Carolina, South Carolina, Georgia, Florida, Wisconsin, Alabama, Indiana, Michigan, Ohio, Massachusetts, Connecticut, Delaware, Tennessee, Iowa, Rhode Island, and Maryland.

Education Abroad.

- Barnard, Henry. Military Systems and Education. 1872. 8mo.
 National Education in the German States. 8mo. New York, 1872.
 Donaldson, James. Lectures on the History of Education in Prussia and England. Edinburgh, 1874, 12mo.
 Edgar, John. History of Early Scotch Education. Edinburgh, 1893. 8mo.
 Huber, V. A. English Universities. Translated from the German. Edited by F. W. Newnham. 3 volumes.

Pedagogy.

- Rein's Outlines of Pedagogics. \$1.25. This is the standard text-book of the Herbartian system.
 Rooper's Apperception, or "A Pot of Green Feathers." 50 cents. A popular presentation of Herbartian principles.
 Gaines's Principles in Teaching. 20 cents.
 Kay's Education and Educators. \$2.00.
 Payne's Science and Art of Education. \$1.00.
 Tate's Philosophy of Education. \$1.50.
 Hindsdale's Schools and Studies. \$1.50.
 Harris's Theory of Education. 15 cents.

- Milton's Small Tractate of Education. 15 cents.
 Harris's Pedagogical and Psychological Investigation. 15 cents.
 The Philosophy of Teaching. By Arnold Tompkins. \$1.00.
 Perez's First Three Years of Childhood. \$1.50.
 Tiedemann's Record of Infant Life. 15 cents.
 Marenholz-Buelow's Child and Child-Nature. \$1.50.
 Ribot's Psychology of Attention. 25 cents.
 Hughes's How to Secure and Retain Attention. 50 cents.
 Fitch's Art of Securing Attention. 15 cents.
 Fitch's Art of Questioning. 15 cents.
 Fitch's Lectures on Teaching. \$1.25.
 Maudsley's Sex in Mind and Education. 15 cents.
 Mills's Inaugural Address at St. Andrews. 25 cents.
 Craig's Philosophy of Training. \$2.00.
 Report of Committee of Ten of the N. E. A.
 Report of Committee of Fifteen of the N. E. A.
 Buckham's Handbook for Young Teachers. 75 cents.
 *Page's Theory and Practice of Teaching. \$1.00.
 DeGraff's Schoolroom Guide. \$1.50.
 Baldorf's Management of Country Schools. 20 cents.
 Gill's Method and School Management. \$1.00.
 Hughes's Mistakes in Teaching. 50 cents.
 Southwick's Quiz Book on Theory and Practice. \$1.00.
 Kennedy's Philosophy of School Discipline. 15 cents.
 *White's School Management. \$1.00.
 Maxwell's Examinations as Tests for Promotion. 15 cents.
 Richardson's Learning and Health. 15 cents.
 Sabin's "Organization" vs. Individuality of Teacher. 15 cents.
 Briggs's Boys as they are Made. 25 cents.
 Sedgwick's Talks with my Pupils. \$1.00.
 *The Philosophy of Education. Rosenkranz. \$1.50.
 Hoose's Province of Methods in Teaching. \$1.00.
 Van Wie's Methods in Common Branches. 75 cents.
 Van Wie's Development Helps. 50 cents.

- Dickinson's Limits of Oral Teaching. 15 cents.
 Hughes's How to Secure and Retain Attention. 50 cents.
 Parsons' Prussian Schools. \$1.00.
 Parsons' French Schools. \$1.00.
 State Education for the People. \$1.25.
 The District School as It Was. By Warren Burton. Boston, 1850.
 Bardeen's Roderick Hume. \$1.25.
 Hazlitt's Schools and Schoolmasters. \$2.00.
 Bardeen's Teacher as He Should Be. 25 cents.
 Bardeen's Teacher's Commercial Value. 25 cents.
 Bardeen's Teaching as a Business for Men. 25 cents.
 Northend's The Teacher and the Parent. \$1.00.
 The Teacher's Mentor. \$1.50.
 Huntington's Unconscious Tuition. 15 cents.
 Sheeley's Anecdotes of School Life. \$1.50.
 Herbert Spencer's Education. \$1.00.
 School Management. By Alfred Holbrook. \$1.00.
 Pedagogics. By Putnam. Recently issued. \$1.50.
 Methods of Teaching. John Swett. \$1.50.
 Common School Education. By Curry. \$1.50.
 On Teaching. By Calderwood. \$1.00.
 Essentials of Method. By DeGarmo.
 *General Method. By McMurry. \$1.50. From the Herbartian standpoint.
 Courses and Methods. By John T. Prince. \$1.25.
 Institutes of Education. By Laurie. \$1.00.
 Teaching and Class Management. By Landon. \$1.60.
 Lectures on Teaching. By Gabriel Compayre. \$1.50.
 Waymarks of Teachers. By Arnold. Recently issued.
 Talks on Pedagogics. By Francis W. Parker. \$1.50.
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 Practical Education. By James H. Baker. Report of 1888.
 The Natural or Developing Element in Modern Methods of Elementary Culture. By W. N. Hailman. Report of 1887.

- Chairs of Pedagogy in Our Higher Institutions of Learning. By G. Stanley Hall. Report of 1882.
- Pedagogical Inquiry. By W. T. Harris. Report of 1885.
- Pedagogical and Psychological Observation. By Dr. William T. Harris. Report of a special committee, 1890.
- Pedagogics as a Science. By Dr. William T. Harris. Report of 1884.
- Pedagogical Bibliography. By Thomas Davidson. Report of 1871.
- Pedagogical Chairs in Universities and Colleges. By B. A. Hinsdale. Report of 1889.
- Some Applications of Psychology to the Art of Teaching. By Pres. W. H. Payne. Report of 1884.
- Outline of a Philosophy of Education. By F. L. Sol-den. Report of 1887.
- Articles in New England Journal of Education :*
- Harvard Lectures on Pedagogy. By G. Stanley Hall. Eighteen numbers in 1881 and 1882.
- Works on Pedagogics, a list recommended. By G. Stanley Hall. In volume 13, page 355.
- The History and Philosophy of Education. By Dr. William T. Harris. Six numbers in volume 16.
- Articles in New York School Journal*—each volume.

Biographies of Noted Educators.

- *Quick's Educational Reformers. \$1.50.
- *Krusi's Life of Pestalozzi. \$1.00.
- Hailmann's Luther, Bacon, Pestalozzi, P re Girard, Diesterweg, and Fr ebel. 20 cents.
- Carlisle's Memoirs of Ascham and Arnold. \$1.00.
- Meiklejohn's Life of Dr. Andrew Bell. \$1.00.
- Monroe's Educational Labors of Henry Barnard. 50 cents.
- Laurie's Life and Works of Comenius. New illustrated edition. \$1.00.
- The Orbis Pictus of John Amos Comenius. \$3.00.
- Butler's Place of Comenius in Education. 15 cents.

- Maxwell's Text Books of Comenius. 25 cents.
 DeGuimp's Pestalozzi; His Aim and Work. \$1.50.
 Pestalozzi's How Gertrude Teaches Her Children.
 \$1.50.
 Rooper's Object Lessons, or Words and Things. 50
 cents.
 Hoose's Pestalozzian Arithmetics. Parts I, II. \$1.00.
 Autobiography of Friederich Frœbel. \$1.50.
 Marenholz-Buelow's Child and Child-Nature. \$1.50.

Psychology.

- *Elements of Psychology. By James Mark Baldwin.
 372 pp. 1893.
 Handbook of Psychology. By James Mark Baldwin.
 Part I, Senses and Intellect. 343 pp. \$1.50. Part
 II, Feeling and Will. 394 pp. \$1.50.
 Psychology Applied to the Art of Teaching. By
 Joseph Baldwin. In the International Education
 Series. 381 pp. \$1.50.
 Mental Science, a compendium of psychology and the
 history of education for high schools and colleges.
 By A. Bain.
 The Emotions and the Will. By A. Bain. \$4.50.
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 Mind and Body, theories of their relation. By A.
 Bain. In the International Education Series.
 Logical Sequence of Subjects in Education. By A.
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 Elements of Psychology. By Gabriel Compayre.
 Boston. 315 pp.
 Lessons in Psychology. By J. P. Gordy. 349 pp. \$1.00.
 Butler's Brief Bibliography of Psychology. 25 cents.
 A Textbook on Psychology, by Johann Frederick
 Herbart. Translated from the German by Margaret
 K. Smith. In the International Education Series.
 The Principles of Psychology. By William James.
 Two volumes, 689, 704 pp.
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- *Bowne's Introduction to Psychological Theory.
 Spencer's Principles of Psychology. \$4.00.
- *Psychology, Descriptive and Explanatory. By Geo. Trumbull Ladd. 676 pp. New York, 1894. 8mo.
- Primer of Psychology. By Geo. Trumbull Ladd. 224 pp. 12mo.
- Outlines of Psychology, a compendium of psychology as applied to teaching. Henry G. Williams. 1895. 65 cents.
- *The Mind of the Child. By W. Preyer. Translated by H. W. Brown. In two volumes. In the International Education Series. \$1.50 each.
- The Senses and the Will. By W. Preyer. \$3.00.
- Herbart and the Herbartians. By Charles DeGarmo. Just issued. In Great Educator Series. \$1.00.
- Psychology. By Dewey. Strictly metaphysical. \$1.50.
- Outlines of Psychology. By Höffding. \$1.50.
- *Apperception. By Lange.
- Inductive Psychology. By E. A. Kirkpatrick. Issued 1895. 80 cents.
- Empirical Psychology. By Linder. 80 cents.
- Teachers' Psychology. By Welsh. E. L. Kellogg & Co.
- A Textbook on Psychology. By James Sully. Two volumes, 501 and 393 pp.
- *The Teacher's Handbook. By the same. Re-written. *Proceedings of the National Educational Association: Study of Children.* By G. Stanley Hall. Report of 1891.
- Psychological Inquiry. By Dr. William T. Harris. Report of 1885.
- Experimental Psychology in Education. International Congress of Educators at Chicago, 1893. The following are some of the most important topics:
- Child Study as a Basis for Psychology and Psychological Teaching, by G. Stanley Hall.
- Child Study as the Basis of Pedagogy, by W. H. Burnham.
- The Dominant Seventh in Education, by Miss Hattie Hunt.

- Mental Waste and Economy, by G. T. W. Patrick.
 Dreaming and Poetic Invention, by James Sully.
 The Language of Children, by F. Tracy.
 Observation and Study of Movement and Mental Status, by Francis Warner.
 Some Association Tracks Involved in Reading and Spelling, by Supt. Thomas Balliett.
 The First Two Years of the Child, by Mellicent W. Shinn.
 A Plea for Special Child-Study, by W. L. Bryan.
 Eye and Ear-Mindedness, by W. L. Bryan.
 The New Psychology in Normal Schools, by Miss Lillie A. Williams.
 Reality, What Place It Should Hold in Philosophy. By James McCosh.
 Can Psychology Be Founded on the Study of Consciousness Alone? by Josiah Royce.
 The Soul as the Basal Concept of Rational Psychology, by G. T. Ormond.
 Self-Activity in Education, by J. G. Schurman.
 Wundt's Psychology of the Will, by E. B. Titchner.

Periodicals..

- The Educational Review. Henry Holt & Co., New York. \$3.00 per year.
 Education, Boston. \$3.00.
 Pedagogical Seminary, for specialists.
 Ohio Educational Monthly, Columbus, O. Com. O. T. Corson, Publisher. \$1.50.
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 New York School Journal, weekly. E. L. Kellogg & Co., New York. \$2.50.
 Journal of Education, weekly. N. E. Publishing Co., Boston. \$2.50.
 Educational Foundations, monthly. E. L. Kellogg & Co., New York. \$1.00.

QUESTIONS.

The figures following the topics refer to the pages upon which answers to the questions may be found. Questions not answered in the text are answered here.

The Synopsis (5).—What is the chief merit of an outline? 2. Define psychology. 3. What are phenomena? *Ans.* Manifestations of differentiated energy, or the activities of nature. 4. Name the methods of study. 5. Define the introspective method. 6. What is its synonym? 7. What is the inferential method? 8. The physiological? 9. The textbook method? 10. Classify the powers of the soul. 11. Name its general powers. 12. Its individual powers. 13. Name the three intellectual powers. 14. What are the three divisions of each? 15. What are the cognitive powers? 16. Classify the feelings. 17. Classify the psychical feelings.

Definition (8).—18. Define psychology as Gordy does. 19. What does Steele say? 20. What are mental facts? *Ans.* Those known to but one person, and that the person experiencing them. 21. Why is the first definition preferred? 22. What is the etymology of the word "psychology"? 23. What is the province of psychology? 24. Why is a knowledge of psychology necessary to a good education? 25. What is its strongest claim? 26. Give four reasons why teachers should study it. 27. Why should prospective teachers study it? 28. Repeat the quotations on page 9. 29. Why should all professional persons study it?

The Soul (9).—30. What is the soul? 31. What synonyms for soul? 32. Define ego. 33. The non-ego. 34. Mind. 35. Spirit. 36. What distinction between soul and spirit? 37. Have dogs souls? 38. Have they a spirit? 39. Do dogs reason?

40. Have they a moral conscience? 41. Have brutes personality? 42. What is the distinction between mind and soul? 43. Why may mind be said to be finite? 44. What powers are exercised by the soul? 45. Who made this classification? 46. Define each. 47. Is all the soul required to feel? *Ans.* Yes; the sensibility of the soul is not a part of the soul, but an activity, the soul exercising itself in a certain direction. 48. Is all the soul required to think? 49. To will?

Psychology Proper (10).—50. Classify psychology. 51. What is meant by "the old psychology"? *Ans.* All rational psychology and empirical psychology may be called the old psychology, to distinguish it from what is known as "the new psychology," which may be divided into physiological psychology, first advanced in 1861 by Broca, and what is known in later researches as "child-study." 52. Define empirical psychology. 53. What of its importance? 54. Define rational psychology. 55. Which is inductive? *Ans.* Empirical. 56. Which is *a priori* in its nature? *Ans.* Rational. 57. Why is empirical psychology *a posteriori*? *Ans.* Because its principles follow experience and observation. 58. Which is of most value to teachers? 59. Why? 60. What is the correct use of the terms cognition, feeling, and volition? 61. Name the methods of study. 62. What is said of the study of self? 63. How do we study self? 64. What are the difficulties of the method? 65. What is introspection? 66. What is its greatest advantage? 67. How does memory aid us in introspection? 68. How is a law of mental activity obtained? 69. What synonym for introspection? 70. What is the inferential method? 71. What synonym? 72. Do we use the objective in the study of our own minds? 73. What is the advantage of this method? 74. Its disadvantage? 75. Why should the teacher study the home influences of the child? 76. What is the relation of these two methods? 77. In what three ways is the inferential method used? 78. Name and define the auxiliary branches. 79. What is said of the study of psychology from books? 80. Why is the method somewhat difficult? 81. Why is it necessary? 82. Give the etymology of "introspection." 83. Upon what are the laws of psychology based?

Relation of Psychical to Physical (14).—84. Why are the soul and body related? 85. How? 86. What is this relation? 87. What of this doctrine? 88. What does Herbart say on this subject? 89. Who was Herbart? (See History of Education.) 90. What two classes of theories of the relation of body and soul? 91. What is monism? 92. Etymology? 93. Its forms? 94. What is materialism? 95. What was Bain's view? 96. Define idealism. 97. Name some idealists. 98. What was Locke's view? 99. Quote Mill's view. 100. Define agnosticism. 101. Who is Herbert Spenser? 102. What of his great work? 103. Define dualism. 104. Its etymology. 105. Its forms. 106. Define mysticism. 107. What was the theory of Leibnitz? 108. What is dualistic realism? 109. What of its validity? 110. Who was Thomas Reid? 111. James McCosh? 112. Name the processes in every complete sensation. 113. Define external excitant. 114. What else called? 115. Illustrate an external excitant. 116. What is the sensorium? 117. What is the psychical excitement? 118. What synonym? 119. What two kinds of sensations?

The Nervous System (19).—120. Of what is the cerebro-spinal system composed? 121. Define encephalon, and name its parts. 122. Describe the cerebrum. 123. What is the cortex? 124. How many cells in the cerebrum? 125. What is their function? 126. What is the function of the cerebrum? 127. Describe the cerebellum. 128. What its function? 129. What is the seat of thought? 130. Describe the medulla oblongata. 131. What its function? 132. How is intellectuality related to size of brain? 133. Name some examples as proof. 134. Is respiration a voluntary act? 135. What effect does mental exercise have upon the brain? 136. When is the brain relatively largest? 137. When largest?

The Nerves (21).—138. What are sensory nerves? 139. What synonyms? 140. What are motor nerves? 141. Are sensations carried from the brain? 142. What two synonyms for motor nerves? 143. Why are each of the six terms so used? 144. What are mixed nerves? 145. Describe the spinal cord. 146. Its functions. 147. Of what does the sympathetic system consist? 148. Its functions?

The Special Senses (23).—149. What can you say of the olfactory nerve? 150. What is its physical excitant? 151. The sensorial excitement? 152. Name the nerves of taste. 153. The excitant. 154. The sensorial excitement. 155. Describe the modifications of this sense. 156. What sensations are detected by the tongue? 157. What is the relation between taste and smell? 158. Illustrate. 159. What is the nerve of hearing? 160. How do we hear? 161. Where are the sensorial end-plates of the auditory nerve? 162. How does experience aid the judgments of hearing? 163. What is the nerve of sight? 164. What nerves arise directly from the cerebrum? 165. How do we see? 166. In what respect does seeing resemble hearing? 167. In what respect do they differ? 168. Which is the most remarkable sense? 169. Name the auxiliaries to sight. 170. What is ether? 171. How do we judge of distance? 172. How do we learn size? 173. If everything in the world of matter should be suddenly reduced to one half its present size, while we were asleep, would we be aware of the change? *Ans.* No. 174. What are tactile nerves? 175. Where do nerves possess sensibility? *Ans.* The end-plates only. 176. What does touch involve? 177. What is said of the diversity of the sense-perceptions of touch? 178. What is the excitant in touch?

Powers of the Soul (26).—179. Name the general powers of the soul. 180. Define general power. 181. What is their general function? 182. What is a faculty? 183. Name the individual powers of the soul. See page 40. 184. Define consciousness. 185. How distinguished from self-consciousness? 186. Quote each definition given. 187. In what respects do these differ? 188. How is the term used? 189. Etymology? 190. What are the objects of consciousness? 191. Distinguish between immediate and mediate knowledge. 192. Classify the objects of consciousness. 193. Are we conscious of the soul? 194. What is the state of consciousness? 195. What was Hamilton's view? 196. When are we conscious? 197. Are we conscious of a past act? 198. Are we conscious of things we remember? 199. What are psychical phenomena? *Ans.* Manifestations of the activity of the soul. 200. What are the three

classes of psychical phenomena? 201. How is consciousness related to the intellect? 202. Name the kinds of consciousness. 203. Define natural consciousness. 204. Ethical. 205. Abnormal. 206. To what causes is abnormal consciousness due? 207. What of the degrees of consciousness? 208. What are the three necessary conditions of consciousness? 209. How is attention related to consciousness? 210. Give an original illustration of voluntary consciousness. 211. What can you say of unconscious mental activity? 212. What is cerebration? *Ans.* The process by which brain activity results in a change of psychical power. 213. What is unconscious cerebration? 214. Can brain activity be unaccompanied by mental activity? 215. Can there be mental activity without brain activity? 216. Can there be mental activity without consciousness? 217. Give an original illustration to bear you out in your answer to No. 215. 218. Can consciousness be cultivated? 219. Give reason. 220. Can involuntary acts be trained?

Attention (30).—221. What is attention? 222. Etymology of the word? 223. Explain this literal meaning. 224. Quote each author mentioned. 225. How is the term applied? 226. What is observation? 227. What does it include? 228. What are the classes of attention? 229. What is reflection? 230. What two mental powers are exercised in reflection? 231. What, then, is the distinction between the two? 232. What is voluntary attention? 233. Etymology? 234. The elements? 235. At what age does the child first learn to attend? 236. What are the two main functions of voluntary attention? 237. What is non-voluntary attention? 238. What are the causes? 239. Which is usually unaccompanied by reason? *Ans.* Non-voluntary. 240. Give illustrations from your own observation of non-voluntary attention in adults. 241. What is the special value of each kind of attention? 242. To what objects may attention be directed? 243. Can we attend to psychical phenomena? 244. What does Gordy say? 245. Explain the statement. 246. Is *seeing* a feeling? *Ans.* Yes. 247. Discuss the relation of mental activity to attention. 248. Can we attend to more than one thing at a time? 249. Can we *think* more than one thing at a time? 250. Quote from a half dozen other

authors in regard to this question. 251. Recite the five general laws of attention. 252. Which of these apply to voluntary attention? 253. Which to non-voluntary? 254. Give Weber's Law. 255. Illustrate its meaning. 256. Name seven conditions unfavorable to attention. 257. Why may repetition render a pupil inattentive? 258. Explain the 4th cause. 259. By which kind of attention do we gain the most knowledge? 260. Why? 261. Name five motives on the part of the pupil that may be appealed to in securing the attention? 262. What is your estimate of the value of each? 263. Quote the "Royal Seven" incentives. 264. Which of these do you think the best incentive to use in securing the attention? 265. Why? 266. Does the nature or disposition of the child have anything to do with the selection of the incentive? 267. Name other incentives not named here. 268. Do these incentives apply to voluntary or non-voluntary attention? 269. Name from observation other causes of inattention. 270. Name the seven requisites on the part of the teacher. 271. Explain the effect of disobeying the second injunction. 272. Why should the teacher stand before the class? 273. How may skillful questioning hold the attention of the pupil? 274. What is said of the growth of attention in childhood? 275. Upon which senses are the stimuli most effective? 276. Why? 277. What importance attaches to this fact? 278. What great educators acted chiefly upon this suggestion? 279. Can the attention be cultivated? 280. How? 281. Describe some practical application of the first rule given, page 35. 282. How will reproduction stories aid in cultivating the attention?

Conception (35).—283. Define conception. 284. Etymology of the word. 285. What does this mean? 286. What are the three processes of conception? 287. Into what five may these be divided? 288. What is presentation? 289. Comparison? (These two constitute analysis.) 290. What is abstraction? 291. Etymology of the word? 292. Define generalization. 293. What does it embrace? 294. Define denomination. 295. What does it embrace? 296. What is nomenclature? 297. Terminology? 298. What is classification? 299. How does it differ from conception? 300. Is conception a faculty? 301.

What is a concept? 302. Classify concepts. 303. Define each class. 304. What are logical concepts? 305. Individual concepts? 306. Give an original illustration to show the difference between simple and general concepts. 307. Can the conception be cultivated? 308. What is the difference between a concept and an image? (See page 45.) 309. Between a concept and an idea? 310. How can the conception be cultivated? 311. What can you say of the relation of conception to education? 312. What steps of conception are most essential to scientific knowledge? 313. Why is conception developed by linguistic study? 314. What are the three essential processes in the growth of the mind? 315. Illustrate these steps in the acquisition of any new fact of knowledge. 316. Discuss the method of developing abstract ideas. 317. What is the crowning notion of science? 318. Should definition of things precede or follow observation? 319. Why? 320. Name the individual powers of the soul and the three divisions of each.

Intellect (40).—321. What is the intellect? 322. Etymology? 323. Name the functions of the intellect. 324. Define each. 325. What is knowledge? 326. Classify the objects of knowledge. 327. What are subjective objects? 328. Objective? 329. Relational? 330. Repeat the classification of knowledge. 331. What is scientific knowledge? 332. Distinguish between primitive and developed knowledge. 333. In acquiring which, is the apperception used? 334. What is presentative knowledge? 335. What are the means of this knowledge? 336. Define representative knowledge. 337. Elaborative. 338. Constitutive. 339. Name the classes of intellectual powers. 340. What are presentative powers? *Ans.* Powers by means of which knowledge is presented to the soul. 341. What are the acquisitional powers? 342. Distinguish between consciousness and self-consciousness. 343. What are the forms of self-consciousness?

Sense-Perception (42).—344. What is sense-perception? 345. What is the foundation of all our knowledge? 346. The sources of all our knowledge? 347. Give etymology of the term perception. 348. Name the three uses of the term sense-perception. 349. Give an original illustration of each use.

350. How many physical conditions of sense-perception? 351. Name them. 352. What may these conditions be called? 353. What is the sensorium? The motorium? 354. What are the psychological elements of sense-perception? 355. What is perception proper? 356. What is sensation? 357. Can a psychological phenomenon produce sensation? *Ans.* It is generally claimed that the phenomenon must be physical, or material, but what shall we do with such cases as the man that suffered such agony when he found himself accidentally impaled on a butcher's hook, declaring that the flesh was torn from the bone, the blood was streaming down his arm, when in fact he was only suspended by his coat sleeve, unhurt? Many such examples could be given. 358. Classify sense-perception. 359. What is an original perception? 360. An acquired perception? 361. Give the illustrations. 362. Give six other illustrations of acquired perceptions. 363. Classify acquired perceptions. 364. What is the "mechanical conscience"? 365. Give an example of an acquired perception of each class. 366. Which are of most value? 367. What do we judge by sight? 368. How does experience aid the sight? 369. Classify the senses. 370. Why this classification? 371. Explain the meaning of each term.

Percepts (45).—372. What is a percept? 373. When do we have a percept of an object? 374. Distinguish between percept and concept. 375. Between percept and image. 376. Can all percepts be revived into images? 377. What is a sense-concept? 378. What can you say of the growth of our perception? 379. What is the power of discrimination? 380. What does a study of the laws of perception teach us in regard to the studies of childhood? 381. What is said of concrete facts? 382. Of object lessons? 383. What of the child's perceptive faculty? 384. Upon what is kindergartenism based? 385. Who founded kindergartenism? 386. What is the etymology of the word?

Intuition (47).—387. Define intuition. 388. What of its relation? 389. What does intuition embrace? 390. Define intuitive ideas. 391. Classify them. 392. Name one not mentioned here. 393. What can you say of the idea of right and

wrong? 394. Prove that ideas of personal identity are intuitive. 395. What is "natural reason"? 396. Do you doubt that ideas of right and wrong are intuitive? 397. Have idiots any intuition? 398. Have insane persons? 399. Explain your answer to the last. 400. What are intuitive truths? 401. What synonyms? 402. Name the tests of an intuitive truth. 403. Explain each of these tests. 404. Can you doubt an intuitive truth? 405. Can you disbelieve one? 406. Name three intuitive truths not named here. 407. What is an axiom? 408. Why intuitive? 409. Repeat three axioms not mathematical.

Representative Powers (49).—410. What are representative powers? 411. Illustrate representation by an original example. 412. By what other term may these powers be called? 413. Name the three representative powers. 414. What is phantasy? 415. What is said of images thus reproduced? 416. Etymology? 417. When exercised? 418. Name the subordinate forms of phantasy. 419. The simplest form. 420. What is somnambulism? 421. What is the distinction between phantasy and memory? 422. What are the causes of phantasy? 423. Name the characteristics of the idea thus reproduced. 424. What are the three modes of reproducing images in phantasy? 425. Illustrate physical stimulation. 426. Physiological stimulation. 427. Psychical.

Imagination (51).—428. What is imagination? 429. Name its activities. 430. Illustrate associative imagination. 431. Penetrative. 432. Contemplative. 433. What can you say of the limits of imagination? 434. Distinguish between phantasy and imagination. 435. Quote Baker. 436. Quote any other author on the subject. 437. What are the forms of imagination? 438. Define scientific imagination. 439. Illustrate its use. 440. Its forms? 441. Define artistic imagination. 442. Its forms? 443. What is the aim of ethical imagination? 444. What of its importance? 445. What is the relation of imagination to education? 446. Illustrate its use in reading. 447. In science study. 448. In exercise of the senses. 449. Name five uses in composition. 450. What would man be without an imagination? 451. What effect would it have upon

his character? 452. Illustrate how the exercise of imagination affords us enjoyment. 453. How does it render the mortal happy? 454. How does it affect language? 455. What is the ethical value of an ideal? 456. Repeat the four general laws of the imagination. 457. What is the difference between the notions we may imagine and those we may think? 458. What is the characteristic of an undisciplined mind? 459. What should be the aim of the educator? 460. Name four means of training the imagination. 461. What is said of the importance of the observation work to be done by the pupil? 462. Why is this often neglected? 463. What imaginative literature would you read to first-year pupils? 464. To second-year pupils? 465. What profit to pupils in constructing questions and problems? 466. Name the phases of imagination. 467. What can you say of the modifying phase? 468. Of the constructive phase? 469. Of the creative phase? 470. What is "hearing-language"? *Ans.* The language learned through hearing. 471. What can you say of the value of the creative phase of imagination? 472. Which phase should the teacher strive most to cultivate? 473. Why?

Memory (55).—474. What is memory? 475. Discuss the several definitions given. 476. What does Compayre's definition mean? 477. How many acts of memory? 478. Name these acts, or steps. 479. Define retention. 480. What depends upon retention? 481. Upon what does retention depend? 482. What is reproduction? 483. Its importance? 484. Define recognition. 485. Illustrate these three steps in some act of memory. 486. Distinguish between perfect and imperfect memory. 487. Why are the acts of memory usually imperfect? 488. What is voluntary recollection? 489. What is the difference between memory and recollection? 490. What is involuntary recollection? 491. Enumerate the conditions favorable for the cultivation of the memory. 492. What does the first mean? 493. How does repetition affect reproduction? 494. What is said of the study of relations? 495. What is amnesia? 496. Its causes? 497. The degrees of forgetfulness?

Association (58).—498. What are the laws of association? 499. By whom first laid down? 500. Classify these laws. 501.

Name the objective laws of association. 502. Define the law of similarity. 503. The law of contrast. 504. The law of contiguity. 505. What can you say of the value of a recognition of the law of contrast in teaching? 506. Illustrate its importance. 507. The same of the law of similarity. 508. The law of contiguity. 509. What is contiguity of time? 510. Of place? 511. In teaching what branches are these laws most important? 512. To what do the subjective laws relate? 513. What is said of the relation between cause and effect? 514. What mistake do teachers often make here? 515. What faculties are strengthened by the exercise of this law? 516. What is said of reviews? 517. Does the fifth law hold good with all ages?

The Cultivation of the Memory (59).—518. What is the general rule for the cultivation of the memory? 519. What is said of skillful questioning? 520. What of memory of ideas? 521. How is interest related to attention? 522. What is a mnemonic? 523. What of the value of mnemonics? 524. Name a mnemonic device not mentioned in this work.

Thought Powers (60).—525. Define thought powers. 526. Classify them. 527. What are the relational powers of the intellect? 528. Why so called? 529. What is apperception? 530. What can you say of conceptive generalization? 531. Define judgment. 532. What is a judgment? 533. How expressed? 534. The parts of a judgment? 535. What are the parts of a proposition? 536. What is the copula? 537. How is a judgment obtained? 538. How do we form a judgment? 539. At what age is judgment first developed? 540. Classify judgments as to origin. 541. As to relation of their two ideas. 542. As to their quantity. 543. As to form. 544. Define affirmative judgment. 545. Derivative. 546. Primitive. 547. Negative. 548. Singular. 549. Universal. 550. Categorical. 551. Conditional. 552. Illustrate each of these by judgments not here expressed. 553. How far can we encourage independent judgment in the learner? 554. In what way is the judgment cultivated?

Reason (63).—555. What is reason? 556. When do children begin to reason? 557. What is the first period in the child's reasoning? 558. Name in order these periods, and the

corresponding ages. 559. What are the two forms of reasoning? 560. Define each. 561. What are the two methods of reasoning. 562. Define induction. 563. Explain Sully's definition of induction. 564. What is meant by proceeding from the known to the unknown? 565. Show how you would do this in teaching grammar. 566. What is the ground for our theory of known to unknown? 567. May the syllogism be used in induction? 568. May the enthymeme? 569. Name the steps of every act of induction. 570. What is deduction? 571. What are the two forms of deduction? 572. Define enthymeme. 573. Illustrate.

The Syllogism (66).—574. What is a syllogism? 575. Name the parts of a syllogism. 576. What is the requisite of the major premise? 577. Of the minor premise? 578. Of the conclusion? 579. Criticise this syllogism: "All gold is yellow; this metal is yellow, therefore, this metal is gold." 580. Write an original syllogism. 581. Name the terms of a syllogism. 582. What is the special value to the student in understanding the use of the syllogism? 583. Explain the difference between the parts of a syllogism and its terms. 584. What can you say of the relation of reason to education? 585. How is inductive reasoning best developed? 586. Deductive reasoning? 587. Is psychology inductive or deductive?

Sensibility (67).—588. What is the sensibility? 589. What are the sensibilities? 590. Classify feelings. 591. What are corporeal feelings? 592. Define psychological feelings. 593. Classify the psychological feelings. 594. Define emotions. 595. Classify them. 596. What are instinctive emotions? 597. Rational? 598. How are instinctive emotions occasioned? 599. Rational? 600. Classify the rational emotions. 601. Name some egoistic emotions. 602. Altruistic emotions. 603. What is the distinction between them? 604. What is the aim of æsthetic emotions? 605. Of the ethical?

The Affections (69).—606. What are the affections? 607. Classify affections. 608. What are beneficent affections? 609. By what other name known? *Ans.* Benevolent. 610. Classify them. 611. What is patriotism? 612. What is philanthropy? 613. What are the defensive affections? 614.

What is resentment? 615. What is retaliation? *Ans.* Returning injury for injury. 616. Is resentment right? *Ans.* Yes. 617. What is indignation? 618. What are the maleficent affections? 619. By what other name known? *Ans.* Malevolent. 620. What notice should teachers take of the study of the affections? 621. How will a knowledge of the affections of a child aid the teacher in discipline?

The Desires (70).—622. What are desires? 623. Classify the desires. 624. What of the desire for property? 625. Do you think this desire intuitive? 626. In what does the desire for knowledge have its origin? 627. Is the desire for self-preservation instinctive? 628. Is it intuitive? 629. When should the desire for power be encouraged? 630. When curbed?

The Will (71).—631. What is the will? 632. What is volition? 633. What are two forms of the activity of the willing power of the soul? 634. What is said of random movements? 635. Name the four steps in the act of willing? 636. Illustrate each of these. 637. In which step is the freedom of choice exercised? 638. Is man a free moral agent? 639. Why? 640. Is character due more to nature or to culture? 641. Upon what does moral training depend? 642. What is the first step in moral training? 643. What use may be made of biographies here? 644. Name six men whose biographies you would specially commend for lessons on moral training. 645. What do you think of the use of fairy tales? 646. Mention other means for training the morals. 647. What is said of example? 648. Which is worth more to the pupil, example or precept?

Pedagogy (73).—649. What is pedagogy? 650. Synonyms? 651. What is the basis of pedagogy? 652. What are the means of pedagogy? 653. What is physical education? 654. Moral education? 655. Intellectual? 656. What are the elements of pedagogy? 657. What is original knowledge? 658. Recorded? Tuitionary knowledge? 659. How can the mind receive knowledge? 660. What is inherent power? 661. Acquired? 662. What is skill? 663. What is the school phase of skill? 664. The technical phase? 665. What are the subjective conditions

of school government? 666. What are the objective conditions? 667. Enumerate the qualifications of the teacher. 668. Illustrate the second qualification. 669. What is said of special professional training? 670. What can you say of the teacher's knowledge of methods? 671. Upon what must discipline be based? 672. What is said of heart powers? 673. Of self-control? 674. Of respect for the profession? 675. What can you say of the authority of the teacher?

The Pupils (76).—676. Enumerate the rights of pupils. 677. Their duties. 678. Discuss each of these. 679. Classify the offenses of pupils. 680. Discuss each of these offenses, and tell how each should be corrected. 681. Would you allow pupils to report on each other? 682. What do you think of the self-reporting system, as to the conduct of the child or pupil? 683. What are the rewards of pupils? 684. How would you correct the offense of idleness? 685. Discuss each of the methods of punishment mentioned. 686. How do you detect the use of profane language on the school grounds? 687. What is the difference between *approbation* and *commendation*? 688. What do you think of the value of prizes as incentives? 689. What are the qualities of a good school-room? 690. The apparatus? 691. What is said of the benefits of a library? 692. Whose work is it to see that the school is supplied with a good library? 693. What is said of "an educational sentiment"?

Universal Principles (79).—694. Repeat Payne's Universal Principles of Instruction. 695. Explain the first principle. 696. How does faculty grow? 697. What does exercise involve? 698. How does repetition aid conception? 699. In what does proper exercise of faculty end? 700. What does Payne mean by "corresponding action from within"? 701. Name White's seven principles. 702. Which one of Payne's principles agrees with White's fourth? 703. How must primary concepts be taught? 704. Which principle accords with Payne's sixth? 705. What is the function of ideals?

Methodology (81).—706. Define methodology. 707. What of its extent? 708. Name some of the principles laid down. 709. What is said of reproduction? 710. What do you under-

stand by the maxim "proceed from the known to the unknown"? 711. What is said of sense-perception? 712. What is the true secret of the acquisition of knowledge? 713. What is said of thoroughness? 714. Of analysis and synthesis? 715. To what studies are they specially important? 716. How can a teacher be overzealous?

Methods in Study (82).—717. Classify the objects of study. 718. What does study do for discipline? 719. For the acquisition of knowledge? 720. For professional advancement? 721. Classify the incentive to study. 722. What is said of the benevolent desire? 723. The selfish desire? 724. Is there any good in the selfish desires? 725. Explain the use of the involuntary incentives. 726. Under what circumstances are these incentives of the most value? 727. What is said of the manner of study? 728. What is meant by "noting facts"? 729. Enumerate the objects of a recitation. 730. Which of these do you consider the most important? 731. Name an object not here named. 732. How should questions be asked a class? 733. Upon what conditions does the method of questioning depend? 734. What do you understand by the "Socratic Method"? 735. What are "leading" questions? 736. What can you say of the use of topical outlines? 737. What is the value of blackboard drills? 738. Why should answers to questions be given in complete sentences? 739. Will the ninth requirement lead to a loss of time?

History of Education (85).—740. Define pedagogy. 741. Give a full definition of didactics. 742. Discuss this definition. 743. Is teaching a profession? 744. What is said of the failures of teachers? 745. What of professional ignorance? 746. What is education? 747. What is teaching?
Ans. Teaching is causing another to do something or become something thou would not have done or become, apart from the teacher. 748. What is the difference between teaching and learning? *Ans.* Teaching is the work of the teacher, and learning is the work of the learner—one can not "learn" another anything. 749. Can a teacher teach unless the pupil learns? *Ans.* No; teaching and learning are interdependent. 750. What is said of unconscious tuition? 751. What is said

of the extent of the history of education? 752. What is civilization? 753. What is the true basis of all history? 754. What is said of the importance of educational history? 755. To what race and to what period is the history of education chiefly limited? 756. What is said of China and Japan? 757. What did Confucius teach? 758. Why is the civilization of Japan in advance of that of China?

Persia, Egypt, and Greece (87).—759. What can you say of Zoroaster? 760. Who were the Magi? 761. What is said of the civilization of Egypt? 762. What does Homer tell us? 763. What of Dorian civilization? 764. What of the laws of Lycurgus? 765. What difference was shown boys and girls? 766. Upon what was Ionian culture based? 767. In what respect did it differ from Spartan culture? 768. What important restrictions were placed upon parents? 769. Who was Pythagoras? 770. What did he teach? 771. How? 772. What is the Pythagorean theorem?

Socrates, Plato, and Aristotle (88).—773. Who was Socrates? 774. How did he teach? 775. Explain his Socratic method. 776. What can you say of his death? 777. What is "Memorabilia"? 778. Name two of his most celebrated pupils. 779. What is the philosophy of Plato called? 780. What did he teach in regard to the soul? 781. What did he write? 782. Who was his most noted pupil? 783. What philosophy did he found? 784. What was his idea of education?

Rome (89).—785. Who was Numa Pompilius? 786. Name some writers on education. 787. Recite the teachings of Cicero. 788. What of his views concerning punishment? 789. Who was Seneca? 790. Quintilian? 791. What is said of the system of the Romans? 792. How did the birth of Christ affect educational progress?

Middle Ages (90).—793. What is said of education during the Middle Ages? 794. Over what period of time did the Middle Ages extend? 795. What was the tendency of education during this period? 796. What did Luther do? 797. Who was Melancthon? 798. What did he do for theology? 799. What for education? 800. What kind of school did Sturm organize? 801. What was his main object? 802. Con-

nect the names of Luther, Melancthon, and Sturm. 803. Connect those of Bacon, Comenius, and Locke. 804. Of what does symmetrical development consist? 805. Who was Lord Bacon? 806. What did he do for mankind?

Seventeenth Century (91).—807. Who was Comenius? 808. Describe his influence on education. 809. What is said of the teachings of Ratch? 810. What was his theory of teaching reading? 811. Was he a successful teacher? 812. What did Locke say education consists of? 813. Who was Rousseau? 814. What was his chief maxim? 815. His greatest production?

Eighteenth Century (93).—816. What can you say of Herman Francke's life and work? 817. Of what was he the founder? 818. Who was Basedow? 819. What was his motto? 820. Quote from his teachings. 821. Who was the founder of object teaching? 822. Describe Pestalozzi's life and work.

The Nineteenth Century (94).—823. Who was Herbart? 824. What is Herbartianism? 825. What of Herbart's influence on educational theory? 826. Who was Froebel? 827. Compare his work with that of Pestalozzi. 828. What is the kindergarten idea? 829. What can you say of the educational outlook to-day? 830. To what is lack of interest on the part of pupils largely due? 831. On what is the true aim of education based?

The New Pedagogics (96).—832. What can you say of the philosophy of teaching? 833. What is said of cram? 834. What is said of the nature of the child? 835. What is said of the recognition of law in the growth of mind? 836. What characterizes the new pedagogics? 837. What is science? 838. What is said of the activities of the mind? 839. Distinguish between soul and mind. 840. Why is the mind limited in its improvements? 841. What is the supreme purpose of teaching? 842. Why can the mind not be trained without adherence to law? 843. To what is successful teaching due? 844. State and explain the proposition given on page 99. 845. Quote Parker, Draper, and Payne. 846. Why must we first learn the nature and activities of the soul before attempting to train the soul?

The Expressional Activities (101).—847. What is said of the value and sequence of studies? 848. Are the natural tendencies of the child wrong? 849. What is the greatest question with teachers? 850. What are the three processes in the growth of the mind? 851. What are the acquisitional activities? 852. The reflectional? 853. The relational? 854. Upon what basis must the studies of the child be selected? 855. What has been one of our greatest pedagogical blunders? 856. What is said of the importance of psychology? 857. What is said of the demand for professionally trained teachers?

How to Observe Children (104).—858. What is said of the psychology of childhood? 859. Quote Dr. Hall on child-study. 860. What is said of the laboratory method in studying children? 861. What is paidology? 862. What is said of sympathy with the child? 863. Give the illustration of life's being made up of a series of related selfs. 864. What are the several topics to be considered by the teacher in the study of the child? 865. Take each of these topics, and discuss the questions asked under them.

General Questions.

866. While looking at an object, do you have an image of it? 867. Can feelings be reproduced? 668. Can we represent in the mind objects we have never seen? 869. What are some of the causes of what we call "a bad memory"? 870. What is meant by the analogy of feeling? 871. What sort of differences does the law of contrast point out? 872. Show how the contiguity of place is important in the study of history; of geography. 873. What is meant by creating an interest? 874. What is the effect of bad mental habits? 875. What is the true nature of a definition? 876. What is belief? 877. What is a necessary belief? 878. When is the ripe development of the thinking powers attained? 879. Resolve this into a syllogism: "The price of wheat will be higher, because the crop promises to be below the average." 880. What is a trite syllogism? 881. What is testimony? Evidence? 882. What is circumstantial evidence? 883. Are manifestations of ill-temper,

fretfulness, etc., indications of character? 884. Is sympathy a pleasurable or a painful feeling? 885. Why is poetry more beautiful than prose? 886. How do we learn what is beautiful and what is not? 887. What is the earliest affection of which a child is conscious? 888. Can one pity thonsel? 889. Can one sympathize with thonsel? 890. Should the confidence of a child in the wisdom of thons parents ever be weakened? 891. Can you be indignant over a wrong done you? 892. Does prejudice seek to do an injury? 893. Can one hide feelings of envy? 894. What is the difference between self-love and selfishness? 895. How is man's highest happiness obtained? 896. How may the desire for approbation destroy integrity? 897. Should one be ambitious? 898. Was it ambition that spurred Alexander to make conquests? 899. Is judging an act of the will? 900. What two conditions are necessary to an exercise of conscience? 901. Have all men these conditions? 902. What is conscience? 903. Is conscience always a safe guide? 904. One born without sight and hearing would lack what knowledge of the world? 905. Do we know matter, or do we know only its qualities? 906. How would you teach a child to read? 907. Why this way? 908. Is great activity in children a fault? 909. For the purpose of committing to memory, is it desirable to read or study aloud? 910. Is a slow memory necessarily a poor one? 911. Show that memory is not free from imagination. 912. Relate some instances of great power of memory. 913. Do we produce in imagination anything that has never been experienced? 914. Enumerate the advantages of class questioning. 915. Does change of mental work rest the mind? 916. Reason for your answer? 917. Is the moving of the lips in study an advantage? 918. How can children be corrected of the habit of audibly whispering their lessons? 919. Is character due more to training than to nature? 920. Should pupils ever be told what they can discover for themselves? 921. Can the pursuit of knowledge be made always agreeable? 922. Would it be a safe practice never to inflict physical pain as a means of discipline? 923. What is the value of maxims in moral training? 924. What is the crowning notion of science? 925. What per-

cent of the teachers of the United States are ladies? 926. What is the average period of time teachers remain in the profession? 927. What is the chief cause of the transitory life of the teacher? 928. What is the chief cause of the insecure tenure of teachers? 929. Should teachers be required to be re-examined annually? 930. Why has the profession of teaching not been placed on the same basis as law, theology, and medicine? 931. Which states of the Union pay relatively the highest salaries?

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